As confidentially submitted to the Securities and Exchange Commission on April 10, 2020, as Amendment No. 4 to the Confidential Submission dated May 10, 2019.
This draft registration statement has not been filed publicly with the Securities and Exchange Commission and all information contained herein remains confidential.

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

PLIANT THERAPEUTICS, INC.

(Exact name of Registrant as specified in its charter)

Delaware	**2834**	**47-4272481**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification No.)**

260 Littlefield Avenue
South San Francisco, CA 94080
(650) 481-6770
(Address, including zip code and telephone number, including area code, of Registrant's principal executive offices)

Bernard Coulie, M.D., Ph.D.
President and Chief Executive Officer
Pliant Therapeutics, Inc.
260 Littlefield Avenue
South San Francisco, CA 94080
(650) 481-6770
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Sam Zucker **Deepa M. Rich** **James Xu** **Goodwin Procter LLP** **601 Marshall Street** **Redwood City, CA 94063** **(650) 752-3100**	**Keith Cummings** **Chief Financial Officer** **Pliant Therapeutics, Inc.** **260 Littlefield Avenue** **South San Francisco, CA 94080** **(650) 481-6770**	**Kristin VanderPas** **Sean Clayton** **David Peinsipp** **Charles S. Kim** **Cooley LLP** **101 California Street 5th Floor** **San Francisco, CA 94111** **(415) 693-2000**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Proposed Maximum Aggregate Offering Price(1)**	**Amount of Registration Fee(2)**
Common Stock, par value $0.0001 per share	**$**	**$**

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act. Includes the offering price of any additional shares that the underwriters have the option to purchase.
(2) Calculated pursuant to Rule 457(o) under the Securities Act based on an estimate of the proposed maximum aggregate offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting offers to buy these securities in any state or other jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED , 2020

PRELIMINARY PROSPECTUS

Shares

Pliant Therapeutics, Inc.

Common Stock

$ per share

This is the initial public offering of our common stock. We are selling shares of common stock. Prior to this offering there has been no public market for our shares. We currently expect the initial public offering price to be between $ and $ per share of common stock.

We have granted the underwriters an option to purchase up to additional shares of common stock. The underwriters can exercise this option at any time within 30 days after the date of this prospectus.

We have applied to list our common stock on The Nasdaq Global Market under the symbol "PLRX."

Investing in our common stock involves risks. See "Risk Factors" beginning on page 12.

We are an "emerging growth company" as defined in the Jumpstart Our Business Act of 2012 and, as such, we have elected to comply with certain reduced reporting requirements for this prospectus and may elect to do so in future filings.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public Offering Price	$	$
Underwriting Discounts and Commissions(1)	$	$
Proceeds to Pliant Therapeutics, Inc. (before expenses)	$	$

(1) See "Underwriting" for additional information regarding total underwriter compensation.

The underwriters expect to deliver the shares of common stock to purchasers on or about , 2020 through book-entry facilities of The Depository Trust Company.

Joint Book-Running Managers

Citigroup **Cowen** **Piper Sandler**

Lead Manager

Needham & Company

, 2020

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We and the underwriters have not authorized anyone to provide any information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside of the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our financial statements and the related notes included elsewhere in this prospectus. You should also consider, among other things, the matters described in the sections entitled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Unless otherwise stated, all references to "us," "our," "Pliant," "we," the "Company" and similar designations refer to Pliant Therapeutics, Inc.

Overview

We are a clinical stage biopharmaceutical company focused on discovering and developing novel therapies for the treatment of fibrosis. Our initial focus is on treating fibrosis by inhibiting integrin-mediated activation of TGF-ß. We have applied our deep understanding of fibrosis biology, along with our medicinal chemistry and translational medicine expertise to develop a set of proprietary tools designed to discover and de-risk product candidates quickly and efficiently. Our wholly-owned lead product candidate, PLN-74809, is an oral small-molecule dual selective inhibitor of avß6 and avß1 integrins that we are developing for the treatment of idiopathic pulmonary fibrosis, or IPF, and primary sclerosing cholangitis, or PSC. We have completed a Phase 1a SAD/MAD trial and a Phase 1b proof-of-mechanism trial of PLN-74809 in IPF and are currently enrolling two Phase 2a trials in IPF. We also plan to submit an investigational new drug application, or IND, for PLN-74809 for the treatment of PSC in the first half of 2020, and plan to initiate a Phase 2a PSC trial as soon as possible thereafter. Our second product candidate, PLN-1474, is a small-molecule selective inhibitor of avß1 for the treatment of liver fibrosis associated with NASH, which we have partnered with Novartis. PLN-1474 is currently undergoing a Phase 1 trial with top-line data expected in the second half of 2020. In addition to our clinical programs, we currently have preclinical integrin-based programs in lead-optimization stage targeting oncology and muscular dystrophies.

Fibrosis Background

Fibrosis refers to excessive scarring, often resulting from aberrant tissue repair processes. Fibrosis occurs when normal tissue repair pathways become dysregulated, causing excessive collagen deposition in the affected organs and ultimately impairing their physiological function. Fibrosis occurs in many organ systems throughout the body including the lungs, liver, kidneys, gastrointestinal tract, skin and muscles. While the exact pathologies for diseases in these organs vary, the development of fibrosis involves many common cell types and biochemical pathways including the transforming growth factor beta, or TGF-ß, signaling pathway.

TGF-ß and Integrins in Fibrosis

TGF-ß signaling is the central pathway by which fibrosis occurs. TGF-ß is a signaling molecule that is secreted by cells as an inactive complex and stored in the extra-cellular matrix. In healthy tissue, TGF-ß is transiently activated in response to tissue injury, resulting in collagen production and, ultimately, healing of the tissue. In fibrosis, however, TGF-ß becomes continuously activated, leading to excess collagen production, sometimes even in the absence of the initial tissue injury, which leads to thickening and stiffening of tissues.

There have been a number of prior approaches to treating fibrosis through TGF-ß inhibition, including through antibodies to TGF-ß and its receptor. However, systemic blockade of TGF-ß signaling has shown significant toxicity due to effects on TGF-ß's normal physiologic functions.

TGF-ß can be activated by a class of cell surface proteins known as integrins. In certain fibrotic diseases such as IPF and PSC, the integrins avß6 and avß1, which are normally expressed at very low levels, have been

shown to be upregulated and to cause the continuous activation of TGF-ß. We believe that, by inhibiting fibrosis-specific TGF-ß activators such as avß6 and avß1, it may be possible to block abnormal TGF-ß activation in fibrotic tissues without affecting TGF-ß signaling in healthy tissues. Historically, integrin drug development has been hampered by the difficulty of developing integrin inhibitors that are both selective for specific integrins and bioavailable. We believe our pipeline of bioavailable, highly selective integrin inhibitors has the potential to address these challenges.

Our Pipeline

(1) We plan to submit an IND for PLN-74809 for the treatment of PSC in the first half of 2020 incorporating the data from the completed Phase 1a/1b healthy volunteer trials and plan to initiate a Phase 2a clinical trial for PSC thereafter.

PLN-74809 in IPF and PSC

Our lead wholly-owned product candidate, PLN-74809, is an oral small-molecule, dual-selective inhibitor of avß6 and avß1 that we are advancing in IPF and PSC. IPF is the most common and severe form of progressive pulmonary fibrosis, affecting approximately 140,000 patients in the United States. The average life expectancy for patients with confirmed IPF is between three and five years. There are currently two U.S. Food and Drug Administration, or FDA, approved therapies for IPF. Both have shown modest slowing of disease progression. However, both therapies have raised significant safety and tolerability concerns. PSC is a progressive liver disorder affecting approximately 30,000 to 45,000 patients in the United States. Patients have a median survival of 10 to 12 years without intervention and carry high lifetime risk of developing gastrointestinal malignancies. There are currently no FDA-approved therapies for PSC.

While expressed at very low levels in normal tissues, avß6 and avß1 are upregulated in the pulmonary tissues of IPF patients, and in the liver tissues of PSC patients. They both serve as activators of TGF-ß, leading to increased collagen production and fibrosis in these tissues. By blocking TGF-ß activation by both avß6 and avß1, we believe PLN-74809 may slow and potentially halt the progression of fibrosis in these patient populations. PLN-74809 has been granted orphan drug designation by the FDA for both IPF and PSC.

We have completed a Phase 1a single ascending dose, or SAD, multiple ascending dose, or MAD, and food effect clinical trial involving 85 healthy volunteers in which PLN-74809 was shown to be orally bioavailable and generally well tolerated with a half-life that may support once-daily dosing.

We have also completed a Phase 1b proof-of-mechanism trial in healthy volunteers evaluating PLN-74809's ability to inhibit TGF-ß activation as measured through pSMAD2/3 activation levels. pSMADs act as signaling molecules directly downstream from the TGF-ß receptor, and therefore pSMAD2/3 activation is used as a reliable biomarker for TGF-ß activation. In the Phase 1b trial, PLN-74809 was shown to inhibit TGF-ß activation by up to 70% in alveolar macrophages collected from healthy volunteers, in a dose- and exposure-dependent manner. Additionally, PLN-74809 was well tolerated with only mild adverse events and no drug-related adverse events.

We are currently enrolling two Phase 2a trials of PLN-74809 in IPF. In the first of these trials, we plan to enroll IPF patients and utilize a positron emission tomography, or PET, ligand to measure avß6 target engagement by PLN-74809 in the lungs post-treatment. The second trial is a 12-week double blind placebo-controlled trial enrolling IPF patients across up to four cohorts consisting of up to three doses of PLN-74809 and one placebo and will evaluate safety, tolerability and pharmacokinetics, or PK. We also plan to employ exploratory efficacy endpoints including Quantitative Lung Fibrosis imaging analysis, biomarkers and pulmonary function. We plan to submit an IND for PLN-74809 in PSC in the first half of 2020 and initiate a Phase 2a trial as soon as possible thereafter. This trial is expected to be a 12-week double blind placebo-controlled trial enrolling PSC patients across up to four cohorts consisting of up to three doses of PLN-74809 and one placebo and will evaluate safety, tolerability and PK. We also plan to employ exploratory efficacy endpoints including biomarkers and evaluation of liver-stiffness.

PLN-1474 in F3/F4 Liver Fibrosis Associated with NASH

Our second clinical-stage product candidate, PLN-1474, is a small-molecule, selective inhibitor of avß1 in development for treatment of stage F3/F4 liver fibrosis associated with nonalcoholic steatohepatitis, or NASH. NASH is a more severe form of non-alcoholic fatty liver disease, or NAFLD. In October 2019, we entered into a license and collaboration agreement with Novartis Institutes for Biomedical Research, Inc., or Novartis, in which Novartis licensed global rights to PLN-1474.

NASH is highly prevalent, affecting approximately 16.5 million adults in the United States, including approximately 3.3 million with stage F3/F4 fibrosis. The stage of fibrosis is the strongest predictor of liver-related morbidity and all-cause mortality in NASH. Patients with F3 and F4 fibrosis carry liver-related mortality risk that is 17 times and 42 times greater, respectively, than NASH patients without fibrosis. Therefore, we believe that treating F3/F4 liver fibrosis will have an impact on liver-related morbidity and all-cause mortality in NASH. There are currently no approved therapies for NASH and the candidates in development to date have shown only modest antifibrotic effects in published clinical trials.

Pursuant to our collaboration with Novartis, Novartis will reimburse us for all development activities associated with the PLN-1474 Phase 1 trials and will be responsible for all development and commercialization activities following Phase 1 trials. Novartis will also pay us tiered royalties, on a product-by-product basis based on annual net sales of products, at percentages ranging from high-single digits to low-double digits of the applicable licensed products and mid-single digits to high-single digits for the applicable research products. In addition to PLN-1474, during the research term, Novartis will also collaborate with us on up to three separate research programs.

avß1 serves as an activator of TGF-ß and its expression has been shown to be upregulated in activated hepatic stellate cells and correlated with severity of liver fibrosis. By inhibiting avß1, we believe PLN-1474 could have a potent direct antifibrotic effect in advanced liver fibrosis.

We have shown through our assays of live human fibrotic liver tissue that PLN-1474 is able to decrease the expression of pro-fibrotic genes such as *COL1A1*, the gene associated with the production of the most abundant

type of collagen produced in fibrosis. We have also shown in multiple animal models of NASH that PLN-1474 has a potent anti-fibrotic effect. We are currently conducting a Phase 1a trial of PLN-1474 in healthy volunteers with data expected in the second half of 2020.

In addition to our clinical programs, we are developing two additional preclinical integrin-based programs. The first of these is our oncology program. As TGF-ß biology has been elucidated, it has become increasingly understood in the scientific literature that TGF-ß plays an important anti-inflammatory role in the tumor micro-environment, preventing T-cell infiltration and inhibiting release of various cytokines. This mechanism is becoming increasingly recognized as a potential cause of the resistance to checkpoint inhibitors such as anti-PD-1 therapies seen in many tumors. We are targeting the TGF-ß activating integrin avß8, which is upregulated in certain tumors with the goal of sensitizing tumors to checkpoint inhibitors. This program has generated positive data in preclinical tumor models and is currently in the lead-optimization phase of development.

Our second preclinical program is an allosteric agonistic monoclonal antibody against an undisclosed integrin receptor being developed for treatment of muscular dystrophies, including Duchenne Muscular Dystrophy. The target integrin is upregulated on muscle cells across multiple muscular dystrophy indications, acting as a substitute for dystrophin and helping to anchor muscle cells to the extracellular matrix. The program utilizes an allosteric agonistic antibody to activate the target in order to augment the naturally occurring compensatory mechanism. Because the antibody is not mutation specific, it could potentially be effective as a single therapy or in combination with other treatment modalities across multiple muscular dystrophy indications.

Our Approach and Capabilities

Our approach to drug development in fibrosis combines our deep knowledge of the biology of fibrosis with various cellular, tissue, and *in vivo* assays developed in house to uncover pathways and potential targets. We have developed and utilized a quantitative fibrosis target expression atlas to identify and validate novel fibrosis targets. We have built a library of over 7,000 integrin inhibitors that we test against these identified targets to select potential candidates. In addition to our integrin library, we have a non-integrin based library of over 70,000 compounds that we also screen against non-integrin targets. We evaluate potential candidates in a series of integrin selectivity assays, cell-based assays, precision cut tissue slices and animal models prior to advancing our product candidates into development.

A key component of our de-risking strategy is our live fibrotic human tissue program.

We obtain live fibrotic human tissue post-transplant through partnerships with research hospitals and organ tissue networks and utilize proprietary protocols to maintain viability of these tissues for multiple days. We test our product candidates in this live tissue and measure multiple markers of antifibrotic activity, effectively bridging the gap between animal models and clinical proof-of-concept. We believe data from these live fibrotic human tissue experiments will increase our confidence that the tested product candidates will show anti-fibrotic effects in patients.

Once in the clinic, we continue to de-risk our programs by designing clinical trials that allow us to show proof-of-mechanism in advance of clinical efficacy data. We utilize pharmacodynamic biomarkers and advanced imaging techniques, including positron emission tomography, or PET, to evaluate target engagement of our product candidates over relatively short time periods and observe whether the product candidate is having its anticipated effect. We believe these collective capabilities uniquely allow us to (i) efficiently identify targets, (ii) optimize the potency and selectivity of candidates and (iii) de-risk product candidates in advance of clinical proof-of-concept.

Pliant was founded in 2015 by world-renowned researchers Dean Sheppard, Rik Derynck, Bill DeGrado and Hal Chapman from the University of California, San Francisco who bring broad experience in fibrosis biology and small-molecule chemistry among other related disciplines. In addition, we have built an executive team with highly relevant experience in drug discovery and clinical development. To date, Pliant has raised over $220 million from investors including, Third Rock Ventures, Cowen Healthcare Investments, Eventide Asset Management, Novartis, Redmile Group, Farallon Capital Management, Cormorant Asset Management, Surveyor Capital (a Citadel company), Logos Capital Schroder Adveq Management, Menlo Ventures, S-Cubed Capital and Agent Capital.

Our Strategy

Our goal is to become a world-leading fibrosis company, developing and commercializing disease-modifying therapies across a spectrum of fibrotic diseases. To achieve this, we are focused on the following key strategies:

- Rapidly advance PLN-74809 in IPF and PSC through clinical development and commercialization.
- Rapidly advance our second product candidate, PLN-1474, through Phase 1 for subsequent trials in NASH associated liver fibrosis.
- Selectively evaluate additional partnerships in indications and geographies where we believe partners can add commercial and/or development capabilities.
- Explore opportunities for our pipeline assets in additional fibrotic indications.
- Leverage our industry leading tools and capabilities to advance our mission of becoming a leading fibrosis company.

Risks Associated with Our Business

Our business is subject to numerous risks that you should be aware of before making an investment decision. These risks are described more fully in the section entitled “Risk Factors.” These risks include, among others:

- We have a limited operating history, which may make it difficult to evaluate our prospects and likelihood of success.
- Our business is highly dependent on the success of our lead product candidate, PLN-74809, as well as any other product candidates that we advance into the clinic. All of our product candidates will require significant additional preclinical and clinical development before we may be able to seek regulatory approval for and launch a product commercially.
- Clinical development involves a lengthy, complex and expensive process, with an uncertain outcome.
- We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of PLN-74809 or any other product candidates.
- If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.
- We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than us.
- Pandemics such as the COVID-19 coronavirus could have an adverse impact on our developmental programs and our financial condition.

- If we lose key management personnel, or if we fail to recruit additional highly skilled personnel, our ability to develop current product candidates or identify and develop new product candidates will be impaired, could result in loss of markets or market share and could make us less competitive.
- Our success depends in part on our ability to protect our intellectual property. It is difficult and costly to protect our proprietary rights and technology, and we may not be able to ensure their protection.

Corporate History and Information

We were incorporated under the laws of the State of Delaware in June 2015. Our principal executive office is located at 260 Littlefield Avenue, South San Francisco, California 94080, and our telephone number is (650) 481-6770. Our website address is https://pliantrx.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

We use various trademarks and trade names in our business, including without limitation our corporate name and logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company," or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act. As an EGC, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements in this prospectus and only two years of related "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our periodic reports and registration statements, including this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements, and registration statements, including in this prospectus; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these exemptions for up to five years from the date of effectiveness of this registration statement or such earlier time that we are no longer an EGC. We will cease to be an EGC on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the last day of the fiscal year in which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the

information you receive from other public companies in which you hold stock. In addition, the JOBS Act provides that an EGC can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an EGC to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date we (i) are no longer an EGC or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

THE OFFERING

Common stock offered by us	shares.
Option to purchase additional shares	We have granted the underwriters an option to purchase up to additional shares of common stock from us. The underwriters can exercise this option at any time within 30 days from the date of this prospectus.
Common stock to be outstanding immediately after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares in full).
Use of proceeds	We estimate that we will receive net proceeds from the sale of our common stock in this offering of approximately $ million, or $ million if the underwriters exercise in full their option to purchase additional shares, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering to fund the clinical development of our lead product candidate, PLN-74809, the ongoing clinical trial development of our second product candidate, PLN-1474, the preclinical development of our early-stage programs in oncology and muscular dystrophy, and for business development activities, working capital and other general corporate purposes. See the section entitled “Use of Proceeds” for additional information.
Risk factors	You should read carefully the section entitled “Risk Factors” and other information included in this prospectus for a discussion of factors that you should consider before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	“PLRX”

The number of shares of our common stock to be outstanding after this offering is based on 147,221,857 shares of common stock (including our redeemable convertible preferred stock on an as-converted basis) outstanding as of December 31, 2019, and excludes:

- 28,527,313 shares of common stock issuable upon the conversion of our Series C redeemable convertible preferred stock issued in February 2020;
- 9,593,137 shares of our common stock issuable upon the exercise of options outstanding as of December 31, 2019, under the 2015 Equity Incentive Plan, or the 2015 Plan, at a weighted-average exercise price of $0.45 per share, or pursuant to rights to purchase restricted stock at a weighted-average purchase price of $0.01 per share;
- 4,054,837 shares of our common stock reserved for future issuance under the 2015 Plan as of December 31, 2019;

- An increase in the number of shares of our common stock reserved for future issuance under the 2015 Plan after December 31, 2019 by an additional 12,459,441 shares (from which options to purchase an aggregate of 9,118,186 shares of common stock were granted under the 2015 Plan after December 31, 2019, at a weighted-average exercise price of $0.87 per share);
- shares of our common stock reserved for future issuance under our 2020 Stock Option and Incentive Plan, or the 2020 Plan, which will become available for issuance upon the effectiveness of the registration statement of which this prospectus is a part; and
- shares of our common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan, or the 2020 ESPP, which will become available for issuance upon the effectiveness of the registration statement of which this prospectus is a part.

Unless otherwise indicated, this prospectus reflects and assumes the following:

- a 1-for- reverse stock split of our common stock to be effected on , 2020;
- the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of shares of our common stock immediately prior to the completion of this offering;
- no exercise of the outstanding options or purchase rights described above;
- no exercise by the underwriters of their option to purchase up to additional shares of our common stock in this offering; and
- the filing and effectiveness of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws, which will occur immediately prior the completion of this offering.

Unless otherwise indicated, the number of shares of common stock outstanding includes unvested restricted shares of common stock subject to repurchase as of December 31, 2019.

Summary Financial Data

The following tables present summary financial data for our business. We have derived the summary statements of operations data for the years ended December 31, 2018 and 2019 from our audited financial statements included elsewhere in this prospectus. We have derived the summary balance sheet data as of December 31, 2019, from our audited financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future and our operating results for the year ended December 31, 2019 are not necessarily indicative of the actual or expected results for any other interim periods or any future period. You should read this data together with our financial statements and related notes appearing elsewhere in this prospectus and the information in the sections entitled "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

(In thousands, except share and per share amounts)	Years Ended December 31, 2018	2019
Statements of Operations Data:		
Revenue—related party	$ —	$ 57,052
Operating expenses:		
Research and development	(24,415)	(47,353)
General and administrative	(6,500)	(10,930)
Total operating expenses	(30,915)	(58,283)
Loss from operations	(30,915)	(1,231)
Interest income	688	816
Other income (expense), net	(49)	(216)
Net loss	$ (30,276)	$ (631)
Accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	(4,876)	(6,225)
Net loss attributable to common stockholders	$ (35,152)	$ (6,856)
Net loss per share attributable to common stockholders, basic and diluted(1)	$ (4.22)	$ (0.59)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted(1)	8,333,000	11,608,180
Pro forma net loss per share attributable to common stockholders, basic and diluted(1)		$
Weighted-average shares outstanding used in computing pro forma net loss per share attributable to common stockholders, basic and diluted(1)		

(1) See Notes 2 and 16 to our financial statements included elsewhere in the prospectus for an explanation of the calculations of our basic and diluted net loss per share, pro forma net loss per share and the weighted-average number of shares used in the computation of the per share amounts.

(In thousands)	As of December 31, 2019		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(4)
Balance Sheets Data:			
Cash, cash equivalents and short-term investments	$102,773	$	$
Working capital(3)	103,728		
Total assets	119,064		
Redeemable convertible preferred stock	186,275		
Accumulated deficit	(76,295)		
Total stockholders' deficit	(76,295)		

(1) The pro forma column in the balance sheet data table above gives effect to (i) our issuance and sale in February 2020 of an additional 28,527,313 shares of Series C redeemable convertible preferred stock for gross proceeds of $52.2 million; (ii) the automatic conversion of all outstanding shares of our redeemable convertible preferred stock as of December 31, 2019 into an aggregate of 131,861,966 shares of our common stock immediately prior to the completion of this offering as if such conversion had occurred on December 31, 2019; and (iii) the filing and effectiveness of our amended and restated certificate of incorporation, which will occur immediately prior to the completion of this offering.

(2) The pro forma as adjusted column in the balance sheet data table above gives effect to (i) the pro forma adjustments set forth in footnote (1) above; and (ii) the issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) We define working capital as current assets less current liabilities. See our financial statements and related notes appearing elsewhere in this prospectus for details regarding our current assets and current liabilities.

(4) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of each of cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million shares in the number of shares we are offering would increase or decrease, as applicable, the amount of each of cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity by approximately $ million, based on the assumed initial public offering price per share, the midpoint of the price range as set forth on the cover page of this prospectus, remains the same. The pro forma as adjusted information is illustrative only, and we will adjust this information based on the actual initial public offering price and other terms of this offering determined at pricing.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our financial statements and related notes appearing elsewhere in this prospectus and in the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our common stock could decline and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant net losses since inception and we expect to continue to incur significant net losses for the foreseeable future.

We have incurred significant net losses in each reporting period since our inception and have financed our operations principally through equity financing. We continue to incur significant research and development and other expenses related to our ongoing operations. For the years ended December 31, 2018 and 2019, we reported a net loss of $30.3 million and $0.6 million, respectively. As of December 31, 2019, we had an accumulated deficit of $76.3 million. We have devoted substantially all of our resources and efforts to research and development and we expect that it will be several years, if ever, before we generate revenue from product sales. Even if we receive marketing approval for and commercialize one or more of our product candidates, we expect that we will continue to incur substantial research and development and other expenses in order to develop and market additional potential product candidates.

We expect to continue to incur significant losses for the foreseeable future, and we anticipate that our expenses will increase substantially if, and as, we:

- advance the development of our lead product candidate, PLN-74809, and our second product candidate, PLN 1474, and our other product candidates through clinical development, and, if successful, later-stage clinical trials;
- discover and develop new product candidates;
- advance our preclinical development programs into clinical development;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- commercialize PLN-74809, our other product candidates and any future product candidates, if approved;
- increase the amount of research and development activities to identify and develop product candidates;
- hire additional clinical development, quality control, scientific and management personnel;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical development and manufacturing efforts and our operations as a public company;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly with third parties;
- maintain, expand and protect our intellectual property portfolio; and
- invest in or in-license other technologies or product candidates.

To become and remain profitable, we must develop and eventually commercialize products with significant market potential. This will require us to be successful in a range of challenging activities, including completing

preclinical studies and clinical trials, obtaining marketing approval for product candidates, manufacturing, marketing and selling products for which we may obtain marketing approval and satisfying any post-marketing requirements. We may never succeed in any or all of these activities and, even if we do, we may never generate revenue that is significant enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations.

Even if this offering is successful, we will require substantial additional capital to finance our operations. If we are unable to raise such capital when needed, or on acceptable terms, we may be forced to delay, reduce and/or eliminate one or more of our research and drug development programs, future commercialization efforts or other operations.

Developing biopharmaceutical products, including conducting preclinical studies and clinical trials, is a very time-consuming, expensive and uncertain process that takes years to complete. Our operations have consumed substantial amounts of cash since inception. We expect our expenses to increase in connection with our ongoing activities, particularly as we conduct our planned clinical trials of PLN-74809, continue research and development to initiate additional clinical trials of PLN-1474 and any future product candidates that we may develop, seek regulatory approvals for our product candidates and to launch and commercialize any products for which we receive regulatory approval. Following this offering, we also expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in order to maintain our continuing operations. If we are unable to raise capital when needed or on acceptable terms, we may be forced to delay, reduce or eliminate one or more of our research and drug development programs or future commercialization efforts.

As of December 31, 2019, we had approximately $102.8 million in cash, cash equivalents and short-term investments. Based on our current operating plan, we believe that the net proceeds from this offering, together with existing cash, cash equivalents and short-term investments, will be sufficient to fund our operating expenses and capital expenditure requirements through . However, our future capital requirements and the period for which our existing resources will support our operations may vary significantly from what we expect, and we will in any event require additional capital in order to complete clinical development of any of our current programs. Our monthly spending levels will vary based on new and ongoing development and corporate activities. Because the length of time and activities associated with development of our product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development, marketing and commercialization activities. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of preclinical studies and clinical trials for our product candidates;
- the clinical development plans we establish for these product candidates;
- the number and characteristics of product candidates that we develop;
- the outcome, timing and cost of meeting regulatory requirements established by the U.S. Food and Drug Administration, or FDA, and other comparable foreign regulatory authorities;
- whether we are able to enter into collaboration agreements and the terms of any such agreements;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of defending intellectual property disputes, including patent infringement actions brought by third parties against us or our product candidates;
- the effect of competing technological and market developments;

- the cost and timing of completion of commercial-scale outsourced manufacturing activities; and
- the cost of establishing sales, marketing and distribution capabilities for any product candidates for which we may receive regulatory approval in regions where we choose to commercialize our products on our own.

We do not have any committed external source of funds or other support for our development efforts and we cannot be certain that additional funding will be available on acceptable terms, or at all. Until we can generate sufficient revenue to finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing or distribution arrangements. If we raise additional funds through public or private equity offerings, the terms of these securities may include liquidation or other preferences that adversely the rights of our common stockholders. Further, to the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, your ownership interest will be diluted. In addition, any debt financing may subject us to fixed payment obligations and covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable intellectual property or other rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us. We also may be required to seek collaborators for any of our product candidates at an earlier stage than otherwise would be desirable or relinquish our rights to product candidates or technologies that we otherwise would seek to develop or commercialize ourselves. Market volatility resulting from the COVID-19 coronavirus pandemic or other factors could also adversely impact our ability to access capital as and when needed. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates or one or more of our other research and development initiatives. Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline.

The amount of our future losses is uncertain and our quarterly operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline.

Our quarterly and annual operating results may fluctuate significantly in the future due to a variety of factors, many of which are outside of our control and may be difficult to predict, including the following:

- the timing and success or failure of clinical trials for our product candidates or competing product candidates, or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners;
- our ability to successfully recruit and retain subjects for clinical trials, and any delays caused by difficulties in such efforts;
- our ability to obtain marketing approval for our product candidates, and the timing and scope of any such approvals we may receive;
- the timing and cost of, and level of investment in, research and development activities relating to our product candidates, which may change from time to time;
- the cost of manufacturing our product candidates, which may vary depending on the quantity of production and the terms of our agreements with manufacturers;
- our ability to attract, hire and retain qualified personnel;
- expenditures that we will or may incur to develop additional product candidates;
- the level of demand for our product candidates should they receive approval, which may vary significantly;

- the risk/benefit profile, cost and reimbursement policies with respect to our product candidates, if approved, and existing and potential future therapeutics that compete with our product candidates;
- the changing and volatile U.S. and global economic environments; and
- future accounting pronouncements or changes in our accounting policies.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated guidance we may provide.

Risks Related to Research and Development and the Biopharmaceutical Industry

We have a limited operating history, which may make it difficult to evaluate our prospects and likelihood of success.

We are a clinical-stage biopharmaceutical company with a limited operating history. We were incorporated in 2015, have no products approved for commercial sale and have not generated any revenue. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, establishing our intellectual property portfolio and performing research and development of our product candidates and our technology related to transforming growth factor beta, or TGF-ß, signaling and integrin biology, medicinal chemistry, translational screening technologies, and clinical insights to discover and develop novel therapies for the treatment of fibrosis. Our approach to the discovery and development of product candidates is unproven, and we do not know whether we will be able to develop any products of commercial value. In addition, our lead product candidate, PLN-74809, is in early clinical development for the treatment of IPF and preclinical development for the treatment of PSC, and our second product candidate, PLN-1474, is in early clinical development. Both programs will require substantial additional development and clinical research time and resources before we would be able to apply for or receive regulatory approvals and begin generating revenue from product sales. We have not yet demonstrated the ability to progress any product candidate through clinical trials. We are still in preclinical and early clinical development and may be unable to obtain regulatory approval, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval and become commercially viable. In addition, as a business with a limited operating history, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors and risks frequently experienced by early-stage biopharmaceutical companies in rapidly evolving fields. Consequently, we have no meaningful history of operations upon which to evaluate our business, and predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing drug products.

Our business is highly dependent on the success of our lead product candidate, PLN-74809, as well as PLN-1474 and any other product candidates that we advance into the clinic. All of our product candidates will require significant additional preclinical and clinical development before we may be able to seek regulatory approval for and launch a product commercially.

We currently have no products that are approved for commercial sale and may never be able to develop marketable products. We are very early in our development efforts and have only one product candidate,

PLN-74809, in early clinical development. Because PLN-74809 is our lead product candidate, if PLN-74809 encounters safety or efficacy problems, development delays, regulatory issues or other problems, our development plans and business would be significantly harmed. We have completed a Phase 1a SAD/MAD trial and a Phase 1b proof-of-mechanism trial of PLN-74809 in IPF and are currently enrolling two Phase 2a trials in IPF. We also plan to submit an IND for PLN-74809 for the treatment of primary sclerosing cholangitis, or PSC, in the first half of 2020, and plan to initiate a Phase 2a PSC trial thereafter. We are also developing PLN-1474 for liver fibrosis associated with nonalcoholic steatohepatitis, or NASH, and are currently evaluating PLN-1474 in Phase 1a SAD/MAD testing.

Before we can generate any revenue from sales of our lead product candidate, PLN-74809, or any of our other product candidates, we must undergo additional preclinical and clinical development, regulatory review and approval in one or more jurisdictions. In addition, if one or more of our product candidates are approved, we must ensure access to sufficient commercial manufacturing capacity and conduct significant marketing efforts in connection with any commercial launch. These efforts will require substantial investment, and we may not have the financial resources to continue development of our product candidates.

We may experience setbacks that could delay or prevent regulatory approval of, or our ability to commercialize, our product candidates, including:

- negative or inconclusive results from our preclinical studies or clinical trials or the clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical testing or clinical trials or abandon a program;
- product-related side effects experienced by subjects in our clinical trials or by individuals using drugs or therapeutics similar to our product candidates;
- delays in submitting INDs or comparable foreign applications or delays or failure in obtaining the necessary approvals from regulators to commence a clinical trial, or a suspension or termination of a clinical trial once commenced;
- conditions imposed by the FDA or comparable foreign authorities regarding the scope or design of our clinical trials;
- delays in enrolling subjects in clinical trials;
- high drop-out rates of subjects from clinical trials; inadequate supply or quality of product candidates or other materials necessary for the conduct of our clinical trials;
- greater than anticipated clinical trial costs;
- inability to compete with other therapies;
- poor efficacy of our product candidates during clinical trials;
- unfavorable FDA or other regulatory agency inspection and review of a clinical trial site;
- failure of our third-party contractors or investigators to comply with regulatory requirements or otherwise meet their contractual obligations in a timely manner, or at all;
- delays related to the impact of the spread of COVID-19 on the FDA’s ability to continue its normal operations;
- delays and changes in regulatory requirements, policy and guidelines, including the imposition of additional regulatory oversight around clinical testing generally or with respect to our technology in particular; or
- varying interpretations of data by the FDA and similar foreign regulatory agencies.

We do not have complete control over many of these factors, including certain aspects of clinical development and the regulatory submission process, potential threats to our intellectual property rights and our manufacturing, marketing, distribution and sales efforts or that of any future collaborator.

Our approach to drug discovery and development in the area of fibrotic diseases, with an initial focus on tissue-specific integrin modulation and TGF-ß signaling inhibition, is unproven and may not result in marketable products.

Our approach is designed to discover and develop targeted treatments for fibrosis with an initial focus on the antagonism of tissue-specific TGF-ß signaling through the inhibition of integrins known to mediate the release of activated TGF-ß in fibrotic tissue. However, although multiple studies are currently underway, to date, this mechanism has not been definitively proven to successfully treat fibrosis. Targeting integrins to treat fibrosis is a novel approach in a rapidly developing field, and there can be no assurance that we will not experience currently unknown problems or delays in developing our product candidates, that such problems or delays will not result in unanticipated costs, or that any such development problems can be solved. We have only tested our lead product candidate, PLN-74809, in healthy volunteers. Therefore, we may ultimately discover that our approach and any product candidates resulting therefrom do not possess properties required for therapeutic effectiveness. As a result, we may never succeed in developing a marketable product.

In addition, while we have developed an extensive panel of cell assays and precision cut tissue assays and have utilized animal models to uncover biological pathways, understood gene expression changes and optimized the potency and selectivity of our potential product candidates, there can be no assurance that our technology will yield their intended benefits. While we believe our assays represent a differentiator in our approach to drug development, our approach has not yet been clinically proven to yield results. Our practice of evaluating our product candidates in live human fibrotic tissue samples before advancing them into the clinic is intended to serve as a bridge between animal models and clinical proof-of-concept. However, there can be no assurance that positive results observed from preclinical animal testing and human fibrotic tissue models will be replicated when a program is advanced into clinical development. In addition, our practice of utilizing live human fibrotic tissue as part of our development efforts may become more widespread in the future, and this approach may be adopted and replicated by others, including our competitors.

Studies involving human tissue samples may also be subject to institutional and government human subject privacy policies that may vary by territory. We or our partners who provide us with human tissue samples, or conduct tissue and/or animal studies on our behalf, may be found to be in violation of one or more of these regulations or policies and may be subject to closure, censure or other penalties. In some cases, these penalties could materially impact the performance, availability, or validity of studies conducted by us on our behalf. Even in the absence of violations resulting in penalties, regulatory and other authorities may refuse to authorize the conduct or to accept the results of studies for regulatory or ethical reasons.

Clinical development involves a lengthy, complex and expensive process, with an uncertain outcome.

To obtain the requisite regulatory approvals to commercialize any product candidates, we must demonstrate through extensive preclinical studies and clinical trials that our product candidates are safe and effective in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. In particular, the general approach for FDA approval of a new drug is dispositive data from two well-controlled, Phase 3 clinical trials of the relevant drug in the relevant patient population. Phase 3 clinical trials typically involve hundreds of patients, have significant costs and take years to complete. A product candidate can fail at any stage of testing, even after observing promising signals of activity in earlier preclinical studies or clinical trials. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. In addition, initial success in clinical trials may not be indicative of results obtained when such trials are completed. There is typically an extremely high rate of attrition from the failure of product candidates proceeding through clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most product candidates that commence clinical trials are

never approved as products and there can be no assurance that any of our future clinical trials will ultimately be successful or support further clinical development of PLN-74809 or any of our other product candidates. Product candidates that appear promising in the early phases of development may fail to reach the market for several reasons, including:

- preclinical studies or clinical trials may show the product candidates to be less effective than expected (e.g., a clinical trial could fail to meet its primary endpoint(s)) or to have unacceptable side effects or toxicities;
- failure to establish clinical endpoints that applicable regulatory authorities would consider clinically meaningful;
- failure to receive the necessary regulatory approvals;
- manufacturing costs, formulation issues, pricing or reimbursement issues, or other factors that make a product candidate uneconomical; and
- the proprietary rights of others and their competing products and technologies that may prevent one of our product candidates from being commercialized.

In addition, differences in trial design between early-stage clinical trials and later-stage clinical trials make it difficult to extrapolate the results of earlier clinical trials to later clinical trials. Moreover, clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in clinical trials have nonetheless failed to obtain marketing approval of their products. Additionally, some of our trials may be open-label studies, where both the patient and investigator know whether the patient is receiving the investigational product candidate or either an existing approved drug or placebo. Most typically, open-label clinical trials test only the investigational product candidate and sometimes do so at different dose levels. Open-label clinical trials are subject to various limitations that may exaggerate any therapeutic effect as patients in open-label clinical trials are aware when they are receiving treatment. In addition, open-label clinical trials may be subject to an “investigator bias” where those assessing and reviewing the physiological outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge. Therefore, it is possible that positive results observed in open-label trials will not be replicated in later placebo-controlled trials.

In addition, the standards that the FDA and comparable foreign regulatory authorities use when regulating us require judgment and can change, which makes it difficult to predict with certainty how they will be applied. Any analysis we perform of data from preclinical and clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent regulatory approval. We may also encounter unexpected delays or increased costs due to new government regulations. Examples of such regulations include future legislation or administrative action, or changes in FDA policy during the period of product development and FDA regulatory review. It is impossible to predict whether legislative changes will be enacted, or whether FDA or foreign regulations, guidance or interpretations will be changed, or what the impact of such changes, if any, may be. The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain approval of any product candidates that we develop.

If we seek to conduct clinical trials in foreign countries or pursue marketing approvals in foreign jurisdictions, we must comply with numerous foreign regulatory requirements governing, among other things, the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement. The foreign regulatory approval process varies among countries and may include all of the risks associated with FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions. Moreover, the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities outside the United States and vice versa.

Successful completion of clinical trials is a prerequisite to submitting a marketing application to the FDA and similar marketing applications to comparable foreign regulatory authorities, for each product candidate and, consequently, the ultimate approval and commercial marketing of any product candidates. We may experience negative or inconclusive results, which may result in our deciding, or our being required by regulators, to conduct additional clinical studies or trials or abandon some or all of our product development programs, which could have a material adverse effect on our business.

We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of PLN-74809 or any other product candidates.

We may experience delays in initiating or completing clinical trials. We also may experience numerous unforeseen events during, or as a result of, any future clinical trials that could delay or prevent our ability to receive marketing approval or commercialize PLN-74809 or any other product candidates, including:

- regulators or institutional review boards, or IRBs, or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- the FDA or other comparable regulatory authorities may disagree with our clinical trial design, including with respect to dosing levels administered in our planned clinical trials, which may delay or prevent us from initiating our clinical trials with our originally intended trial design;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective contract research organizations, or CROs, which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- the number of subjects required for clinical trials of any product candidates may be larger than we anticipate or subjects may drop out of these clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that we add new clinical trial sites or investigators;
- we may elect to, or regulators, IRBs, Data Safety Monitoring Boards, or DSMBs, or ethics committees may require that we or our investigators, suspend or terminate clinical research or trials for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- we may not have the financial resources available to begin and complete the planned trials, or the cost of clinical trials of any product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate to initiate or complete a given clinical trial; and
- the FDA or other comparable foreign regulatory authorities may require us to submit additional data such as long-term toxicology studies, or impose other requirements before permitting us to initiate a clinical trial.

Our product development costs will increase if we experience delays in clinical testing or in obtaining marketing approvals. We do not know whether any of our clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. If we do not achieve our product development goals in the time frames we announce and expect, the approval and commercialization of our product candidates may be delayed or prevented entirely. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates and may allow our competitors to bring products to market before we do, potentially impairing our ability to successfully commercialize our product candidates and harming our business and results of operations. Any delays in our clinical development programs may harm our business, financial condition and results of operations significantly.

Our ongoing and future clinical trials may reveal significant adverse events or unexpected drug-drug interactions not seen in our preclinical studies and may result in a safety profile that could delay or prevent regulatory approval or market acceptance of any of our product candidates.

We completed our Phase 1a clinical trial of our lead product candidate PLN-74809 in healthy volunteers, and, with the exception of a number of reported minor adverse events, the product candidate was observed to be generally well-tolerated across all doses in 71 trial participants. However, if significant adverse events or other side effects are observed in any of our ongoing or future clinical trials, we may have difficulty recruiting patients to our clinical trials, patients may drop out of our trials, or we may be required to abandon the trials or our development efforts altogether. In addition, in our planned Phase 2a clinical trials, we expect to evaluate PLN-74809 administered with approved IPF agents. As a result, we may encounter unexpected drug-drug interactions in our planned trials, and may be required to further test these candidates, including in drug-drug interaction studies, which may be expensive, time-consuming and result in delays to our programs. Some potential therapeutics developed in the biopharmaceutical industry that initially showed therapeutic promise in early-stage trials have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude the product candidate from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance of the approved product due to its tolerability versus other therapies.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. The enrollment of patients depends on many factors, including:

- the patient eligibility and exclusion criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints and the process for identifying patients;
- the willingness or availability of patients to participate in our trials (including due to the recent outbreak of the respiratory illness caused by a coronavirus strain known as COVID-19, or the COVID-19 coronavirus);
- the proximity of patients to trial sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages and risks of the product candidate being studied in relation to other available therapies, including any new products that may be approved for the indications we are investigating;
- the availability of competing commercially available therapies and other competing drug candidates' clinical trials;
- our ability to obtain and maintain patient informed consents; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion.

For example, we are initially developing PLN-74809 for the treatment of IPF and PSC, each of which is an orphan indication. In the United States, IPF is estimated to affect approximately 140,000 patients, while PSC is estimated to affect approximately 30,000 to 45,000 patients. As a result, we may encounter difficulties enrolling subjects in our clinical trials of PLN-74809 due, in part, to the small size of these patient populations. In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic

areas as our product candidates, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials in such clinical trial site. Certain of our planned clinical trials may also involve invasive procedures such as bronchoscopy and broncho-alveolar lavage, or BAL, procedure, which may lead some patients to drop out of trials to avoid these follow-up procedures.

Further, timely enrollment in clinical trials is reliant on clinical trial sites which may be adversely affected by global health matters, including, among other things, pandemics. For example, our clinical trial sites may be located in regions currently being affected by the COVID-19 coronavirus. Some factors from the COVID-19 coronavirus outbreak that we believe may adversely affect enrollment in our trials include:

- the diversion of healthcare resources away from the conduct of clinical trial matters to focus on pandemic concerns, including the attention of infectious disease physicians serving as our clinical trial investigators, hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- given that our clinical trials target respiratory indications, patients who would otherwise be candidates for enrollment in our clinical trials, may become infected with the COVID-19 coronavirus, which may kill some patients and render others too ill to participate, limiting the available pool of participants for our trials;
- the inability of patients to come to hospitals and universities to participate in our trial, which may force us to conduct our trials in patients' homes, rendering the trials more difficult and costly to conduct;
- limitations on travel that interrupt key trial activities, such as clinical trial site initiations and monitoring;
- interruption in global shipping affecting the transport of clinical trial materials, such as investigational drug product and comparator drugs used in our trials; and
- employee furlough days that delay necessary interactions with local regulators, ethics committees and other important agencies and contractors.

These and other factors arising from the COVID-19 coronavirus could worsen in countries that are already afflicted with the virus or could continue to spread to additional countries, each of which may further adversely impact our clinical trials. The global outbreak of the COVID-19 coronavirus continues to evolve and the conduct of our trials may continue to be adversely affected, despite efforts to mitigate this impact.

The design or execution of our ongoing and future clinical trials may not support marketing approval.

The design or execution of a clinical trial can determine whether its results will support marketing approval, and flaws in the design or execution of a clinical trial may not become apparent until the clinical trial is well advanced. We are currently enrolling two Phase 2a trials of PLN-74809 in IPF. In the first of these trials, we plan to enroll IPF patients and utilize a positron emission tomography, or PET, ligand to measure avß6 target engagement by PLN-74809 in the lungs post-treatment. The second trial is a 12-week double blind placebo-controlled trial enrolling IPF patients across up to four cohorts consisting of up to three doses of PLN-74809 and one placebo and will evaluate safety, tolerability and pharmacokinetics, or PK. It is possible that we may need to amend our clinical trial, which would require us to resubmit our clinical trial protocols to IRBs for reexamination, and may impact the costs, timing or successful completion of such clinical trial. In addition, we may desire to test PLN-74809 at doses exceeding those evaluated in the Phase 1a trial, and may not be able to do so.

Additionally, in some instances, there can be significant variability in safety or efficacy results between different trials with the same product candidate due to numerous factors, including differences in trial protocols, size and type of the patient populations, variable adherence to the dosing regimen or other protocol requirements and the rate of dropout among clinical trial participants. We do not know whether any clinical trials we conduct will demonstrate consistent or adequate efficacy and safety to obtain marketing approval to market our product candidates.

Further, the FDA and comparable foreign regulatory authorities have substantial discretion in the approval process and in determining when or whether marketing approval will be obtained for any of our product candidates. Our product candidates may not be approved even if they achieve their primary endpoints in future Phase 3 clinical trials or registrational trials. The FDA or comparable foreign regulatory authorities may disagree with our trial designs and our interpretation of data from preclinical studies or clinical trials. In addition, any of these regulatory authorities may change requirements for the approval of a product candidate even after reviewing and providing comments or advice on a protocol for a pivotal Phase 3 or registrational clinical trial. In addition, any of these regulatory authorities may also approve a product candidate for fewer or more limited indications than we request or may grant approval contingent on the performance of costly post-marketing clinical trials. The FDA or comparable foreign regulatory authorities may not approve the labeling claims that we believe would be necessary or desirable for the successful commercialization of our product candidates, if approved.

Delays in patient enrollment may result in increased costs or may affect the timing or outcome of our future clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our product candidates.

Although we have received US orphan drug designation for PLN-74809 for IPF and PSC indications, we may be unable to obtain and maintain orphan drug designation for our other product candidates and, even if we obtain such designation, we may not be able to realize the benefits of such designation, including potential marketing exclusivity of our product candidates, if approved.

Regulatory authorities in some jurisdictions, including the United States and other major markets, may designate drugs intended to treat conditions or diseases affecting relatively small patient populations as orphan drugs. Under the Orphan Drug Act of 1983, the FDA may designate a product candidate as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as having a patient population of fewer than 200,000 individuals in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States.

Although we have received U.S. orphan drug designation for PLN-74809 for IPF and PSC indications, the designation of any of our product candidates as an orphan drug does not mean that any regulatory agency will accelerate regulatory review of, or ultimately approve, that product candidate, nor does it limit the ability of any regulatory agency to grant orphan drug designation to product candidates of other companies that treat the same indications as our product candidates.

Generally, if a product candidate with an orphan drug designation receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or foreign regulatory authorities from approving another marketing application for a product that constitutes the same drug treating the same indication for that marketing exclusivity period, except in limited circumstances. The applicable period is seven years in the United States. Orphan drug exclusivity may be revoked if any regulatory agency determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different drugs can be approved for the same condition in the United States. Even after an orphan drug is approved, the FDA may subsequently approve another drug for the same condition if the FDA concludes that the latter drug is not the same drug or is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates progress through preclinical to late stage clinical trials to marketing approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize yield, manufacturing batch size, minimize costs and achieve consistent quality and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and jeopardize our ability to commercialize our product candidates and generate revenue.

In addition, there are risks associated with large scale manufacturing for clinical trials or commercial scale including, among others, cost overruns, potential problems with process scale-up, process reproducibility, stability issues, compliance with good manufacturing practices, lot consistency and timely availability of raw materials. Even if we obtain marketing approval for any of our product candidates, there is no assurance that our manufacturers will be able to manufacture the approved product to specifications acceptable to the FDA or other comparable foreign regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential commercial launch of the product or to meet potential future demand. If our manufacturers are unable to produce sufficient quantities for clinical trials or for commercialization, our development and commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects.

We may not be successful in our efforts to identify or discover additional product candidates in the future.

Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for a number of reasons, including:

- our inability to design such product candidates with the pharmacological properties that we desire or attractive pharmacokinetics; or
- potential product candidates may, on further study, be shown to have harmful side effects or other characteristics that indicate that they are unlikely to be medicines that will receive marketing approval and achieve market acceptance.

Research programs to identify new product candidates require substantial technical, financial and human resources. If we are unable to identify suitable compounds for preclinical and clinical development, we will not be able to obtain product revenue in future periods, which likely would result in significant harm to our financial position and adversely impact our stock price.

Due to our limited resources and access to capital, we must make decisions on the allocation of resources to certain programs and product candidates; these decisions may prove to be wrong and may adversely affect our business.

We have limited financial and human resources and intend to initially focus on research programs and product candidates for a limited set of indications. As a result, we may forgo or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential or a greater likelihood of success. In addition, we seek to accelerate our development timelines, including by initiating certain clinical trials of our product candidates before earlier-stage studies have been completed. This approach may cause us to commit significant resources to prepare for and conduct later-stage trials for one or more product candidates that subsequently fail earlier-stage clinical testing. Therefore, our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities, or expend resources on product candidates that are not viable.

There can be no assurance that we will ever be able to identify additional therapeutic opportunities for our product candidates or to develop suitable potential product candidates through internal research programs, which could materially adversely affect our future growth and prospects. We may focus our efforts and resources on potential product candidates or other potential programs that ultimately prove to be unsuccessful.

If product liability lawsuits are brought against us, we may incur substantial financial or other liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of testing PLN-74809 and any of our other product candidates in clinical trials, and will face an even greater risk if we commercialize any products. For example, we may be sued if our product candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical trials, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- inability to bring a product candidate to the market;
- decreased demand for our products;
- injury to our reputation;
- withdrawal of clinical trial participants and inability to continue clinical trials;
- initiation of investigations by regulators;
- fines, injunctions or criminal penalties;
- costs to defend the related litigation;
- diversion of management’s time and our resources;
- substantial monetary awards to trial participants;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize any product candidate, if approved; and
- decline in our share price.

Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop. We need to obtain additional insurance for clinical trials as PLN-74809 and PLN-1474 continue clinical development and as additional product candidates enter the clinic. However, we may be unable to obtain, or may obtain on unfavorable terms, clinical trial insurance in amounts adequate to cover any liabilities from any of our clinical trials. Our insurance policies may also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than us.

The development and commercialization of new drug products is highly competitive. We may face competition with respect to any product candidates that we seek to develop or commercialize in the future from major biopharmaceutical companies, specialty biopharmaceutical companies, and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies, and other public and private research organizations that conduct research, seek patent protection, and establish collaborative arrangements for research, development, manufacturing, and commercialization.

There are a number of large biopharmaceutical and biotechnology companies that are currently pursuing the development of products for the treatment of fibrosis. Companies that we are aware of that are targeting the treatment of various fibrosis indications through inhibiting various parts of the TGF-ß pathway include large companies with significant financial resources such as Biogen, Inc., AbbVie Inc., Gilead Sciences, Inc., Indalo Therapeutics, Inc., FibroGen, Inc., Galapagos NV, Bristol Myers Squibb Co., and Novartis AG. However, we know of no other companies currently in clinical development with an orally bioavailable small-molecule, selective integrin inhibitor. For additional information regarding our competition, see "Business—Competition."

Many of our current or potential competitors, either alone or with their strategic partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than we do.

Mergers and acquisitions in the biopharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, more convenient, or less expensive than any products that we may develop. Furthermore, products currently approved for other indications could be discovered to be effective treatments of fibrosis as well, which could give such products significant regulatory and market timing advantages over PLN-74809 or other product candidates that we may identify. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours and may do, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, products or technologies developed by our competitors may render our potential product candidates uneconomical or obsolete and we may not be successful in marketing any product candidates we may develop against competitors. The availability of competitive products could limit the demand, and the price we are able to charge, for any products that we may develop and commercialize.

Risks Related to Marketing, Reimbursement, Healthcare Regulations and Ongoing Regulatory Compliance

Even if a product candidate we develop receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

Even if PLN-74809 or any other product candidate we develop receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors, such as Medicare and Medicaid programs and managed care organizations, and others in the medical community. In addition, the availability of coverage by third-party payors may be affected by existing and future health care reform measures designed to reduce the cost of health care. If the product candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable.

The degree of market acceptance of any product candidate, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the ability to offer our products, if approved, for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the recommendations with respect to our product candidates in guidelines published by various scientific organizations applicable to us and our product candidates;
- the strength of marketing and distribution support;
- the ability to obtain sufficient third-party coverage and adequate reimbursement; and
- the prevalence and severity of any side effects.

If government and other third-party payors do not provide coverage and adequate reimbursement levels for any products we commercialize, market acceptance and commercial success would be reduced.

Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, if approved, which could make it difficult for us to sell any product candidates profitably.

Significant uncertainty exists as to the coverage and reimbursement status of any products for which we may obtain regulatory approval. In the U.S., sales of any products for which we may receive regulatory marketing approval will depend, in part, on the availability of coverage and reimbursement from third-party payors. Third-party payors include government authorities such as Medicare, Medicaid, TRICARE, and the Veterans Administration, managed care providers, private health insurers, and other organizations. Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Coverage and adequate reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance. Patients are unlikely to use our product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost. We cannot be sure that coverage and reimbursement will be available for, or accurately estimate the potential revenue from, our product candidates or assure that coverage and reimbursement will be available for any product that we may develop.

Government authorities and other third-party payors decide which drugs and treatments they will cover and the amount of reimbursement. Coverage and reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor’s determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors. As a result, obtaining coverage and reimbursement approval of a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our products on a payor-by-payor basis,

with no assurance that coverage and adequate reimbursement will be obtained. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate for us to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Additionally, third-party payors may not cover, or provide adequate reimbursement for, long-term follow-up evaluations required following the use of product candidates, once approved. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates, if approved.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, also called the Medicare Modernization Act, or the MMA, established the Medicare Part D program to provide a voluntary prescription drug and biologic benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs and biologics. Unlike Medicare Parts A and B, Part D coverage is not standardized. Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs and biologics, and each drug plan can develop its own formulary that identifies which drugs and biologics it will cover, and at what tier or level. However, Part D prescription drug formularies must include products within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs and biologics in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs and biologics may increase demand for products for which we obtain marketing approval. Any negotiated prices for any of our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors.

For a drug or biologic product to receive federal reimbursement under the Medicaid or Medicare Part B programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the average manufacturer price, or AMP, and Medicaid rebate amounts reported by the manufacturer. As of 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, expanded the types of entities eligible to receive discounted 340B pricing, although under the current state of the law these newly eligible entities (with the exception of children’s hospitals) will not be eligible to receive discounted 340B pricing on orphan drugs. As 340B drug pricing is determined based on AMP and Medicaid rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discount to increase. Further, on December 27, 2018, the District Court for the District of Columbia invalidated a reimbursement formula change instituted by the Centers for Medicare & Medicaid Services, or CMS, under the 340B program. For the 2019 and 2018 fiscal years, CMS altered the reimbursement formula. The court ruled this change was not an “adjustment” that was within the Secretary’s discretion to make but was instead a fundamental change in the reimbursement calculation, and such a dramatic change was beyond the scope of the Secretary’s authority. On May 6, 2019, the district court reiterated that the rate reduction exceeded the Secretary’s authority and declared that the rate reduction for 2019 also exceeded the Secretary’s authority and remanded the issue to HHS to devise an appropriate remedy. On July 10, 2019, the district court entered its final judgment and CMS has filed an appeal and a decision by the Court of Appeals for the D.C. Circuit is pending. However, subsequently, hospitals have filed a complaint in the U.S. District Court for D.C. to enjoin the reimbursement cuts for 2020. It is unclear how such litigation could affect covered hospitals who might purchase our products in the future, and affect the rates we may charge such facilities for our approved products.

Changes to these current laws and state and federal healthcare reform measures that may be adopted in the future may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

Even if we obtain FDA approval of any of our product candidates, we may never obtain approval or commercialize such products outside of the United States, which would limit our ability to realize their full market potential.

In order to market any products outside of the United States, we must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval procedures vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approvals could result in significant delays, difficulties and costs for us and may require additional preclinical studies or clinical trials which would be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. Satisfying these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. In addition, our failure to obtain regulatory approval in any country may delay or have negative effects on the process for regulatory approval in other countries. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, our ability to realize the full market potential of our products will be harmed.

We currently have no marketing and sales organization and have no experience as a company in commercializing products, and we may have to invest significant resources to develop these capabilities. If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our products, we may not be able to generate product revenue.

We have no internal sales, marketing or distribution capabilities, nor have we commercialized a product. If any of our product candidates ultimately receives regulatory approval, we expect to establish a marketing and sales organization with technical expertise and supporting distribution capabilities to commercialize each such product in major markets, which will be expensive and time consuming. We have no prior experience as a company in the marketing, sale and distribution of pharmaceutical products and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. We may also choose to collaborate with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. We may not be able to enter into collaborations or hire consultants or external service providers to assist us in sales, marketing and distribution functions on acceptable financial terms, or at all. In addition, our product revenues and our profitability, if any, may be lower if we rely on third parties for these functions than if we were to market, sell and distribute any products that we develop ourselves. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we are not successful in commercializing our products, either on our own or through arrangements with one or more third parties, we may not be able to generate any future product revenue and we would incur significant additional losses.

Our relationships with healthcare providers and physicians and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors in the United States and elsewhere play a primary role in the recommendation and prescription of biopharmaceutical products. Arrangements with third-party

payors and customers can expose biopharmaceutical manufacturers to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, or FCA, which may constrain the business or financial arrangements and relationships through which such companies sell, market and distribute biopharmaceutical products. In particular, the research of our product candidates, as well as the promotion, sales and marketing of healthcare items and services, as well as certain business arrangements in the healthcare industry, are subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials. The applicable federal, state and foreign healthcare laws and regulations laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity can be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate it. In addition, a claim submitted for payment to any federal health care program that includes items or services that were made as a result of a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA. The Anti-Kickback Statute has been interpreted to apply to arrangements between biopharmaceutical manufacturers on the one hand and prescribers, purchasers, and formulary managers, among others, on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution;
- the federal civil and criminal false claims laws, including the FCA, and civil monetary penalty laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, false, fictitious or fraudulent claims for payment to, or approval by Medicare, Medicaid, or other federal healthcare programs; knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim or an obligation to pay or transmit money or property to the federal government; or knowingly concealing or knowingly and improperly avoiding or decreasing or concealing an obligation to pay money to the federal government. A claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim under the FCA. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to “cause” the submission of false or fraudulent claims. The FCA also permits a private individual acting as a “whistleblower” to bring *qui tam* actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity can be found guilty of violating HIPAA without actual knowledge of the statute or specific intent to violate it;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose, among other things, requirements relating to the privacy, security and transmission of individually identifiable health information on certain covered healthcare providers, health plans, and healthcare clearinghouses, known

as covered entities, as well as their respective "business associates," those independent contractors or agents of covered entities that perform services for covered entities that involve the creation, use, receipt, maintenance or disclosure of individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions;

- the federal Physician Payments Sunshine Act, created under the ACA, and its implementing regulations, which require some manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to CMS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made in the previous year to certain non-physician providers such as physician assistants and nurse practitioners;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by third-party payors, including private insurers, and may be broader in scope than their federal equivalents; state and foreign laws that require biopharmaceutical companies to comply with the biopharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers, marketing expenditures or drug pricing; state and local laws that require the registration of biopharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

The distribution of biopharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of biopharmaceutical products.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Ensuring business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert a company's attention from the business.

It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, reputational harm, possible exclusion from participation in federal and state funded healthcare programs, contractual damages and the curtailment or restricting of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws. Further, if any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be

subject to significant criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Any action for violation of these laws, even if successfully defended, could cause a biopharmaceutical manufacturer to incur significant legal expenses and divert management's attention from the operation of the business. Prohibitions or restrictions on sales or withdrawal of future marketed products could materially affect business in an adverse way.

Even if we receive regulatory approval of any product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

If any of our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies and submission of safety, efficacy and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. In addition, we will be subject to continued compliance with cGMP and GCP requirements for any clinical trials that we conduct post-approval.

Manufacturers and their facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any marketing application, and previous responses to inspection observations. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials and surveillance to monitor the safety and efficacy of the product candidate. The FDA may also require a risk evaluation and mitigation strategies, or REMS, program as a condition of approval of our product candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, we will have to comply with requirements including submissions of safety and other post-marketing information and reports and registration.

The FDA may impose consent decrees or withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;

- product seizure or detention or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising, and promotion of products that are placed on the market. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. However companies may share truthful and not misleading information that is not inconsistent with the labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses and a company that is found to have improperly promoted off-label uses may be subject to significant liability. The policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

Ongoing healthcare legislative and regulatory reform measures may have a material adverse effect on our business and results of operations.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the ACA was passed, which substantially changed the way health care is financed by both governmental and private insurers, and significantly impacted the U.S. biopharmaceutical industry. The ACA, among other things, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations, established annual fees and taxes on manufacturers of certain branded prescription drugs, and created a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% (increased pursuant to the Bipartisan Budget Act of 2018, effective as of 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer’s outpatient drugs to be covered under Medicare Part D.

Since its enactment, there have been numerous judicial, administrative, executive, and legislative challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the “individual mandate” was repealed by Congress as part of the Tax Act. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case, and has allotted one hour for oral arguments, which are expected to occur in the fall. It is unclear how such litigation and other efforts to repeal and replace the ACA will impact the ACA and our business. In addition, the Trump Administration has issued various Executive Orders which eliminated cost sharing subsidies and various provisions that would impose a fiscal burden on states or a cost, fee, tax, penalty or regulatory burden on individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. Additionally, Congress has introduced several pieces of legislation aimed at significantly revising or repealing the ACA. It is unclear whether the ACA will be

overturned, repealed, replaced, or further amended. We cannot predict what affect further changes to the ACA would have on our business.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. The Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs, including aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, including the Bipartisan Budget Act of 2018, or BBA, will remain in effect through 2029, unless additional congressional action is taken. However, these Medicare sequester reductions will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. The BBA also amended the ACA, effective January 1, 2019, by increasing the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and closing the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole". On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. There has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs.

At the federal level, the Trump administration's budget for fiscal year 2021 includes a $135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. On March 10, 2020, the Trump administration sent "principles" for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. The Trump administration previously released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contained proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. The U.S. Department of Health and Human Services, or HHS, has solicited feedback on some of these measures and has implemented others under its existing authority. For example, in May 2019, CMS issued a final rule that would allow Medicare Advantage Plans the option of using step therapy, a type of prior authorization, for Part B drugs beginning January 1, 2020. This final rule codified CMS's policy change that was effective January 1, 2019. Although a number of these and other measures may require additional authorization to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payers. In addition, individual states in the United States have also increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control biopharmaceutical and biologic product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

These laws, and future state and federal healthcare reform measures may be adopted in the future, any of which may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used. Additionally, we expect to experience pricing pressures in connection with the sale of any future approved product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, cost containment initiatives and additional legislative changes.

Inadequate funding for the FDA, the SEC and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical employees and stop critical activities. Separately, in response to the COVID-19 coronavirus pandemic, on March 10, 2020 the FDA announced its intention to postpone most inspections of foreign manufacturing facilities and products through April 2020. On March 18, 2020, the FDA announced its intention to temporarily postpone routine surveillance inspections of domestic manufacturing facilities and provided guidance regarding the conduct of clinical trials. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, upon completion of this offering and in our operations as a public company, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

EU drug marketing and reimbursement regulations may materially affect our ability to market and receive coverage for our products in the European member states.

We intend to seek approval to market our product candidates in both the United States and in selected foreign jurisdictions. If we obtain approval in one or more foreign jurisdictions for our product candidates, we will be subject to rules and regulations in those jurisdictions. In some foreign countries, particularly those in the EU, the pricing of drugs is subject to governmental control and other market regulations which could put pressure on the pricing and usage of our product candidates. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. In addition, market acceptance and sales of our product candidates will depend significantly on the availability of adequate coverage and reimbursement from third-party payors for our product candidates and may be affected by existing and future health care reform measures.

Much like the federal Anti-Kickback Statute prohibition in the United States, the provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the EU. The provision of benefits or advantages to physicians is governed by the national anti-bribery laws of EU Member States, and in respect of the UK (which is longer a member of the EU), the UK Bribery Act 2010. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain EU Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual EU Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the EU Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

In addition, in most foreign countries, including the European Economic Area, or EEA, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing and reimbursement vary widely from country to country. For example, the EU provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. Reference pricing used by various EU member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. In some countries, we may be required to conduct a clinical study or other studies that compare the cost-effectiveness of any of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. There can be no assurance that any country that has price controls or reimbursement limitations for biopharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the EU do not follow price structures of the United States and generally prices tend to be significantly lower. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If pricing is set at unsatisfactory levels or if reimbursement of our products is unavailable or limited in scope or amount, our revenues from sales and the potential profitability of any of our product candidates in those countries would be negatively affected.

We may incur substantial costs in our efforts to comply with evolving global data protection laws and regulations, and any failure or perceived failure by us to comply with such laws and regulations may harm our business and operations.

The global data protection landscape is rapidly evolving, and we may be or become subject to or affected by numerous federal, state and foreign laws and regulations, as well as regulatory guidance, governing the collection, use, disclosure, transfer, security and processing of personal data, such as information that we collect about participants and healthcare providers in connection with clinical trials. Implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, which may create uncertainty in our business, affect our or our service providers' ability to operate in certain jurisdictions or to collect, store, transfer use and share personal data, result in liability or impose additional compliance or other costs on us. Any failure or perceived failure by us to comply with federal, state, or foreign laws or self-regulatory standards could result in negative publicity, diversion of management time and effort and proceedings against us by governmental entities or others. Recently, California passed the California Data Privacy Protection Act of 2018, or the CCPA, which went into effect in January 2020 and provides new data privacy rights for consumers and new operational requirements for companies, which may increase our compliance costs and potential liability. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed

information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. While there is currently an exception for protected health information that is subject to HIPAA and clinical trial regulations, as currently written, the CCPA may impact certain of our business activities. The new California law may lead to similar laws in other U.S. states or at a national level, which could increase our potential liability and adversely affect our business.

In addition to our operations in the United States, which may be subject to healthcare and other laws relating to the privacy and security of health information and other personal information, may seek to conduct clinical trials in EEA and may become subject to additional European data privacy laws, regulations and guidelines. The General Data Protection Regulation, (EU) 2016/679, or GDPR, became effective on May 25, 2018, and deals with the collection, use, storage, disclosure, transfer, or other processing of personal data, including personal health data, regarding individuals in the EEA. The GDPR imposes a broad range of strict requirements on companies subject to the GDPR, including requirements relating to having legal bases for processing personal information relating to identifiable individuals and transferring such information outside the EEA, including to the United States, providing details to those individuals regarding the processing of their personal health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, keeping personal information secure, having data processing agreements with third parties who process personal information, responding to individuals' requests to exercise their rights in respect of their personal information, reporting security breaches involving personal data to the competent national data protection authority and affected individuals, appointing data protection officers, conducting data protection impact assessments, and record-keeping. The GDPR increases substantially the penalties to which we could be subject in the event of any non-compliance, including fines of up to 10,000,000 Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20,000,000 Euros or up to 4% of our total worldwide annual turnover, whichever is greater, for more serious offenses. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR includes restrictions on cross-border data transfers.

Further, national laws of member states of the EU are in the process of being adapted to the requirements under the GDPR, thereby implementing national laws which may partially deviate from the GDPR and impose different obligations from country to country, so that we do not expect to operate in a uniform legal landscape in the EEA. Also, as it relates to processing and transfer of genetic data, the GDPR specifically allows national laws to impose additional and more specific requirements or restrictions, and European laws have historically differed quite substantially in this field, leading to additional uncertainty. The United Kingdom's decision to leave the EU, often referred to as Brexit, has created uncertainty with regard to data protection regulation in the United Kingdom. In particular, it is unclear how data transfers to and from the United Kingdom will be regulated now that the United Kingdom has left the EU.

In the event we commence clinical trials in the EEA, the GDPR may increase our responsibility and liability in relation to personal data that we process where such processing is subject to the GDPR, and we may be required to put in place additional mechanisms and safeguards to ensure compliance with the GDPR, including as implemented by individual countries. Compliance with the GDPR will be a rigorous and time-intensive process that may increase our cost of doing business or require us to change our business practices, and despite those efforts, there is a risk that we may be subject to fines and penalties, litigation, and reputational harm in connection with our European activities. We expect that we will continue to face uncertainty as to whether our efforts to comply with any obligations under European privacy laws will be sufficient. If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new clients or biopharmaceutical partners. We may also experience hesitancy, reluctance, or refusal by European or multi-national clients or biopharmaceutical partners to continue to use our products and solutions due to the potential risk exposure as a result of the current (and, in particular, future) data protection

obligations imposed on them by certain data protection authorities in interpretation of current law, including the GDPR. Such clients or biopharmaceutical partners may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain, or otherwise objectionable and therefore decide not to do business with us. Any of the forgoing could materially harm our business, prospects, financial condition and results of operations.

Legal, political and economic uncertainty surrounding the exit of the U.K. from the EU may be a source of instability in international markets, create significant currency fluctuations, adversely affect our operations in the U.K. and pose additional risks to our business, revenue, financial condition, and results of operations.

On June 23, 2016, the U.K. held a referendum in which a majority of the eligible members of the electorate voted to leave the EU, commonly referred to as Brexit. Pursuant to Article 50 of the Treaty on EU, the U.K. ceased being a Member State of the EU on January 31, 2020. However, the terms of the withdrawal have yet to be fully negotiated. The implementation period began February 1, 2020 and will continue until December 31, 2020. During this 11-month period, the U.K. will continue to follow all of the EU's rules, the EU's pharmaceutical law remains applicable to the U,K, and the U.K.'s trading relationship will remain the same. However, regulations (including financial laws and regulations, tax and free trade agreements, intellectual property rights, data protection laws, supply chain logistics, environmental, health and safety laws and regulations medicine licensing and regulations, immigration laws and employment laws), have yet to be addressed. This lack of clarity on future U.K. laws and regulations and their interaction with the EU laws and regulations may negatively impact foreign direct investment in the U.K., increase costs, depress economic activity and restrict access to capital.

The uncertainty concerning the U.K's legal, political and economic relationship with the EU after Brexit may be a source of instability in the international markets, create significant currency fluctuations, and/or otherwise adversely affect trading agreements or similar cross-border co-operation arrangements (whether economic, tax, fiscal, legal, regulatory or otherwise) beyond the date of Brexit.

These developments, or the perception that any of them could occur, may have a significant adverse effect on global economic conditions and the stability of global financial markets, and could significantly reduce global market liquidity and limit the ability of key market participants to operate in certain financial markets. In particular, it could also lead to a period of considerable uncertainty in relation to the U.K. financial and banking markets, as well as on the regulatory process in Europe. Asset valuations, currency exchange rates and credit ratings may also be subject to increased market volatility.

If the U.K. and the EU are unable to negotiate acceptable agreements or if other EU member states pursue withdrawal, barrier-free access between the UK and other EU member states or among the European Economic Area overall could be diminished or eliminated. The long-term effects of Brexit will depend on any agreements (or lack thereof) between the U.K. and the EU and, in particular, any arrangements for the U.K. to retain access to EU markets either during a transitional period from January 1, 2021 or more permanently.

Such a withdrawal from the EU is unprecedented, and it is unclear how the U.K's access to the European single market for goods, capital, services and labor within the EU, or single market, and the wider commercial, legal and regulatory environment, will impact our current and future operations (including business activities conducted by third parties and contract manufacturers on our behalf) and clinical activities in the U.K. In addition to the foregoing, our U.K. operations support our current and future operations and clinical activities in the EU and European Economic Area, or EEA, and these operations and clinical activities could be disrupted by Brexit.

We may also face new regulatory costs and challenges that could have an adverse effect on our operations. Depending on the terms of the U.K's withdrawal from the EU, the U.K. could lose the benefits of global trade

agreements negotiated by the EU on behalf of its members, which may result in increased trade barriers that could make our doing business in the EU and the EEA more difficult. Since the regulatory framework in the U.K. covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from EU directives and regulations, Brexit could materially impact the future regulatory regime with respect to the approval of our product candidates in the U.K. For instance, in November 2017, EU member states voted to move the EMA, the EU's regulatory body, from London to Amsterdam. Operations in Amsterdam commenced in March 2019, and the move itself may cause significant disruption to the regulatory approval process in Europe. It remains to be seen how, if at all, Brexit will impact regulatory requirements for product candidates and products in the U.K. Any delay in obtaining, or an inability to obtain, any regulatory approvals, as a result of Brexit or otherwise, would prevent us from commercializing our product candidates in the U.K. and/or the EU and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the U.K. and/or EU for our product candidates, which could significantly and materially harm our business. Even prior to any change to the U.K's relationship with the EU, the announcement of Brexit has created economic uncertainty surrounding the terms of Brexit and its consequences could adversely impact customer confidence resulting in customers reducing their spending budgets on our product candidates, if approved, which could adversely affect our business, financial condition, results of operations and could adversely affect the market price of our common stock.

Additional laws and regulations governing international operations could negatively impact or restrict our operations.

If we expand our operations outside of the United States, we must dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate. The U.S. Foreign Corrupt Practices Act, or the FCPA, prohibits any U.S. individual or business entity from paying, offering, authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the biopharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals and healthcare providers in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information products classified for national security purposes, as well as certain products, technology and technical data relating to those products. If we expand our presence outside of the United States, it will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside of the United States, which could limit our growth potential and increase our development costs.

The failure to comply with laws governing international business practices may result in substantial civil and criminal penalties and suspension or debarment from government contracting. The Securities and Exchange Commission, or SEC, also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

We are subject to certain U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations. We can face serious consequences for violations.

Among other matters, U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations, which are collectively referred to as Trade Laws, prohibit companies and their employees, agents, clinical research organizations, legal counsel, accountants, consultants, contractors, and other partners from authorizing, promising, offering, providing, soliciting, or receiving directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. Violations of Trade Laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We also expect our non-U.S. activities to increase in time. We plan to engage third parties for clinical trials and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals and we can be held liable for the corrupt or other illegal activities of our personnel, agents, or partners, even if we do not explicitly authorize or have prior knowledge of such activities.

Risks Related to Our Intellectual Property

Our success depends in part on our ability to protect our intellectual property. It is difficult and costly to protect our proprietary rights and technology, and we may not be able to ensure their protection.

Our business will depend in large part on obtaining and maintaining patent, trademark and trade secret protection of our proprietary technologies and our product candidates, their respective components, synthetic intermediates, formulations, combination therapies, methods used to manufacture them and methods of treatment, as well as successfully defending these patents against third-party challenges. Our ability to stop unauthorized third parties from making, using, selling, offering to sell or importing our product candidates is dependent upon the extent to which we have rights under valid and enforceable patents that cover these activities and whether a court would issue an injunctive remedy. If we are unable to secure and maintain patent protection for any product or technology we develop, or if the scope of the patent protection secured is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to commercialize any product candidates we may develop may be adversely affected.

The patenting process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. In addition, we may not pursue, obtain, or maintain patent protection in all relevant markets. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from or license to third parties and are reliant on our licensors or licensees.

The strength of patents in the biotechnology and biopharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries. Even if the patents do successfully issue, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our technology, including our product candidates, or prevent others from designing around our claims. If the breadth or strength of protection provided by the patent applications we hold with respect to our product candidates is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced.

We cannot be certain that we were the first to file any patent application related to our technology, including our product candidates, and, if we were not, we may be precluded from obtaining patent protection for our technology, including our product candidates.

We cannot be certain that we are the first to invent the inventions covered by pending patent applications and, if we are not, we may be subject to priority disputes. Furthermore, for United States applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third-party or instituted by the United States Patent and Trademark Office, or USPTO, to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. Similarly, for United States applications in which at least one claim is not entitled to a priority date before March 16, 2013, derivation proceedings can be instituted to determine whether the subject matter of a patent claim was derived from a prior inventor's disclosure.

We may be required to disclaim part or all of the term of certain patents or all of the term of certain patent applications. There may be prior art of which we are not aware that may affect the validity or enforceability of a patent or patent application claim. There also may be prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim. No assurance can be given that if challenged, our patents would be declared by a court to be valid or enforceable or that even if found valid and enforceable, would adequately protect our product candidates, or would be found by a court to be infringed by a competitor's technology or product. We may analyze patents or patent applications of our competitors that we believe are relevant to our activities, and consider that we are free to operate in relation to our product candidates, but our competitors may achieve issued claims, including in patents we consider to be unrelated, which block our efforts or may potentially result in our product candidates or our activities infringing such claims. The possibility exists that others will develop products which have the same effect as our products on an independent basis which do not infringe our patents or other intellectual property rights, or will design around the claims of patents that may issue that cover our products.

Recent or future patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. Under the enacted Leahy-Smith America Invents Act, or America Invents Act, enacted in 2013, the United States moved from a "first to invent" to a "first-to-file" system. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. The America Invents Act includes a number of other significant changes to U.S. patent law, including provisions that affect the way patent applications are prosecuted, redefine prior art and establish a new post-grant review system. The effects of these changes are currently unclear as the USPTO only recently developed new regulations and procedures in connection with the America Invents Act and many of the substantive changes to patent law, including the "first-to-file" provisions, only became effective in March 2013. In addition, the courts have yet to address many of these provisions and the applicability of the act and new regulations on specific patents discussed herein have not been determined and would need to be reviewed. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to make or use compounds that are similar to the compositions of our product candidates but that are not covered by the claims of our patents or those of our licensors;

- we or our licensors, as the case may be, may fail to meet our obligations to the U.S. government in regards to any in-licensed patents and patent applications funded by U.S. government grants, leading to the loss of patent rights;
- we or our licensors, as the case may be, might not have been the first to file patent applications for these inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies;
- it is possible that our pending patent applications will not result in issued patents;
- it is possible that there are prior public disclosures that could invalidate our or our licensors' patents, as the case may be, or parts of our or their patents;
- it is possible that others may circumvent our owned or in-licensed patents;
- it is possible that there are unpublished applications or patent applications maintained in secrecy that may later issue with claims covering our products or technology similar to ours;
- the laws of foreign countries may not protect our or our licensors', as the case may be, proprietary rights to the same extent as the laws of the United States;
- the claims of our owned or in-licensed issued patents or patent applications, if and when issued, may not cover our product candidates;
- our owned or in-licensed issued patents may not provide us with any competitive advantages, may be narrowed in scope, or be held invalid or unenforceable as a result of legal challenges by third parties;
- the inventors of our owned or in-licensed patents or patent applications may become involved with competitors, develop products or processes which design around our patents, or become hostile to us or the patents or patent applications on which they are named as inventors;
- it is possible that our owned or in-licensed patents or patent applications omit individual(s) that should be listed as inventor(s) or include individual(s) that should not be listed as inventor(s), which may cause these patents or patents issuing from these patent applications to be held invalid or unenforceable;
- we have engaged in scientific collaborations in the past, and will continue to do so in the future. Such collaborators may develop adjacent or competing products to ours that are outside the scope of our patents;
- we may not develop additional proprietary technologies for which we can obtain patent protection;
- it is possible that product candidates or diagnostic tests we develop may be covered by third parties' patents or other exclusive rights; or
- the patents of others may have an adverse effect on our business.

We may enter into license or other collaboration agreements in the future that may impose certain obligations on us. If we fail to comply with our obligations under such future agreements with third parties, we could lose license rights that may be important to our future business.

In connection with our efforts to expand our pipeline of product candidates, we may enter into certain licenses or other collaboration agreements in the future pertaining to the in-license of rights to additional candidates. Such agreements may impose various diligence, milestone payment, royalty, insurance or other obligations on us. If we fail to comply with these obligations, our licensor or collaboration partners may have the right to terminate the relevant agreement, in which event we would not be able to develop or market the products covered by such licensed intellectual property.

Moreover, disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our product candidates, technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, the agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects.

In addition, we may have limited control over the maintenance and prosecution of these in-licensed patents and patent applications, or any other intellectual property that may be related to our in-licensed intellectual property. For example, we cannot be certain that such activities by any future licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. We have limited control over the manner in which our licensors initiate an infringement proceeding against a third-party infringer of the intellectual property rights, or defend certain of the intellectual property that is licensed to us. It is possible that the licensors' infringement proceeding or defense activities may be less vigorous than had we conducted them ourselves.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to patent protection, we rely heavily upon know-how and trade secret protection, as well as non-disclosure agreements and invention assignment agreements with our employees, consultants and third-parties, to protect our confidential and proprietary information, especially where we do not believe patent protection is appropriate or obtainable. In addition to contractual measures, we try to protect the confidential nature of our proprietary information using physical and technological security measures. Such measures may not, for example, in the case of misappropriation of a trade secret by an employee or third-party with authorized access, provide adequate protection for our proprietary information. Our security measures may not prevent an employee or consultant from misappropriating our trade secrets and providing them to a competitor, and recourse we take against such misconduct may not provide an adequate remedy to protect our interests fully. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive, and time-consuming, and the outcome is unpredictable. In addition, trade secrets may be independently developed by others in a manner that could prevent legal recourse by us. For example, our clinical development strategy includes the testing of live tissue samples, and our techniques for preserving and testing these samples are proprietary and confidential. If one or more third parties obtain or are otherwise able to replicate these techniques, an important feature and differentiator of our clinical development strategy will become available to

potential competitors. If any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position could be harmed.

In addition, courts outside the United States are sometimes less willing to protect trade secrets. If we choose to go to court to stop a third-party from using any of our trade secrets, we may incur substantial costs. These lawsuits may consume our time and other resources even if we are successful. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology.

Thus, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary technology by third parties. We have also adopted policies and conduct training that provides guidance on our expectations, and our advice for best practices, in protecting our trade secrets.

Third-party claims of intellectual property infringement may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our ability to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and biopharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, derivation, *inter partes* review, post grant review, and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that our product candidates and/or proprietary technologies infringe their intellectual property rights. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our product candidates. As the biotechnology and biopharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of drugs, products or their methods of use or manufacture. Thus, because of the large number of patents issued and patent applications filed in our fields, there may be a risk that third parties may allege they have patent rights encompassing our product candidates, technologies or methods.

If a third-party claims that we infringe its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement and other intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;
- substantial damages for infringement, which we may have to pay if a court decides that the product candidate or technology at issue infringes on or violates the third-party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;

- a court prohibiting us from developing, manufacturing, marketing or selling our product candidates, or from using our proprietary technologies, unless the third-party licenses its product rights to us, which it is not required to do;
- if a license is available from a third-party, we may have to pay substantial royalties, upfront fees and other amounts, and/or grant cross-licenses to intellectual property rights for our products and any license that is available may be non-exclusive, which could result in our competitors gaining access to the same intellectual property; and
- redesigning our product candidates or processes so they do not infringe, which may not be possible or may require substantial monetary expenditures and time.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, results of operations, financial condition and prospects. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure.

Our collaborators may assert ownership or commercial rights to inventions they develop from research we support or that we develop from our use of the tissue samples or other biological materials, which they provide to us, or otherwise arising from the collaboration.

We collaborate with several institutions, universities, medical centers, physicians and researchers in scientific matters and expect to continue to enter into additional collaboration agreements. In certain cases, we do not have written agreements with these collaborators, or the written agreements we have do not cover intellectual property rights. Also, we rely on numerous third parties to provide us with tissue samples and biological materials that we use to conduct our research activities and develop our product candidates. If we cannot successfully negotiate sufficient ownership and commercial rights to any inventions that result from our use of a third-party collaborator's materials, or if disputes arise with respect to the intellectual property developed with the use of a collaborator's samples, or data developed in a collaborator's study, we may be limited in our ability to capitalize on the market potential of these inventions or developments.

Third parties may assert that we are employing their proprietary technology without authorization.

There may be third-party patents of which we are currently unaware with claims to compositions of matter, materials, formulations, methods of manufacture or methods for treatment that encompass the composition, use or manufacture of our product candidates. There may be currently pending patent applications of which we are currently unaware which may later result in issued patents that our product candidates or their use or manufacture may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patent were held by a court of competent jurisdiction to cover our product candidates, intermediates used in the manufacture of our product candidates or our materials generally, aspects of our formulations or methods of use, the holders of any such patent may be able to block our ability to develop and commercialize the product candidate unless we obtained a license or until such patent expires or is finally determined to be held invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business. Even if we obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize our product candidates, which could harm our business significantly.

Third parties may assert that our employees or consultants have wrongfully used or disclosed confidential information or misappropriated trade secrets.

As is common in the biotechnology and biopharmaceutical industries, we employ individuals who were previously employed at universities or other biotechnology or biopharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, and although we try to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and, if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. This type of litigation or proceeding could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other intellectual property related proceedings could adversely affect our ability to compete in the marketplace.

We may not be successful in obtaining or maintaining necessary rights to develop any future product candidates on acceptable terms.

Because our programs may involve additional product candidates that may require the use of proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license or use these proprietary rights.

Our product candidates may also require specific formulations to work effectively and efficiently and these rights may be held by others. We may develop products containing our compounds and pre-existing biopharmaceutical compounds. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and

development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology.

Additionally, we sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. In certain cases, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and companies, which may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe our patents or the patents of our current or future licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question or for other reasons. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business.

We may choose to challenge the patentability of claims in a third-party's U.S. patent by requesting that the USPTO review the patent claims in an *ex-parte* re-examination, *inter partes* review or post-grant review proceedings. These proceedings are expensive and may consume our time or other resources. We may choose to challenge a third-party's patent in patent opposition proceedings in the European Patent Office, or EPO, or other foreign patent office. The costs of these opposition proceedings could be substantial, and may consume our time or other resources. If we fail to obtain a favorable result at the USPTO, EPO or other patent office then we may be exposed to litigation by a third-party alleging that the patent may be infringed by our product candidates or proprietary technologies.

In addition, because some patent applications in the United States may be maintained in secrecy until the patents are issued, patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, and publications in the scientific literature often lag behind actual discoveries, we cannot be certain that others have not filed patent applications for technology covered by our owned and in-licensed issued patents or our pending applications, or that we or, if applicable, a licensor were the first to invent the technology. Our competitors may have filed, and may in the future file, patent applications covering our products or technology similar to ours. Any such patent application may have priority over our owned and in-licensed patent applications or patents, which could require us to obtain rights to issued patents

covering such technologies. If another party has filed a U.S. patent application on inventions similar to those owned by or in-licensed to us, we or, in the case of in-licensed technology, the licensor may have to participate in an interference or derivation proceeding declared by the USPTO to determine priority of invention in the United States. If we or one of our licensors is a party to an interference or derivation proceeding involving a U.S. patent application on inventions owned by or in-licensed to us, we may incur substantial costs, divert management's time and expend other resources, even if we are successful.

Interference or derivation proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all, or if a non-exclusive license is offered and our competitors gain access to the same technology. Litigation or interference proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent application process and following the issuance of a patent. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In certain circumstances, even inadvertent noncompliance events may permanently and irrevocably jeopardize patent rights. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

Any patents, if issued patents covering our product candidates could be found invalid or unenforceable if challenged in court or the USPTO.

If we or one of our licensors initiate legal proceedings against a third-party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate, as applicable, is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third-party can assert invalidity or unenforceability of a patent. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, inter partes review, post grant review, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a

way that they no longer cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, or if we are otherwise unable to adequately protect our rights, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection could have a material adverse impact on our business and our ability to commercialize or license our technology and product candidates.

Likewise, our current licensed patents covering our companion technologies, licensed from UCSF are expected to expire in 2036, without taking into account any possible patent term adjustments or extensions. Our earliest patents may expire before, or soon after, our first product achieves marketing approval in the United States or foreign jurisdictions. Upon the expiration of our current patents, we may lose the right to exclude others from practicing these inventions. The expiration of these patents could also have a similar material adverse effect on our business, results of operations, financial condition and prospects. We own pending patent applications covering our proprietary technologies or our product candidates that if issued as patents are expected to expire from 2037 through 2040, without taking into account any possible patent term adjustments or extensions. However, we cannot be assured that the USPTO or relevant foreign patent offices will grant any of these patent applications.

Changes in patent law in the U.S. and in foreign jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Assuming that other requirements for patentability are met, prior to March 16, 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. On March 16, 2013, under the Leahy-Smith America Invents Act, or the America Invents Act, enacted in September 2011, the United States transitioned to a first inventor to file system in which, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. A third party that files a patent application in the USPTO on or after March 16, 2013, but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This will require us to be cognizant of the time from invention to filing of a patent application. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or our licensors were the first to either (i) file any patent application related to our product candidates or (ii) invent any of the inventions claimed in our or our licensor’s patents or patent applications.

The America Invents Act also includes a number of significant changes that affect the way patent applications will be prosecuted and also may affect patent litigation. These include allowing third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, inter-partes review, and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. Therefore, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our owned or in-licensed patent applications and the enforcement or defense of our owned or in-licensed issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, the patent positions of companies in the development and commercialization of biopharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.

We have limited intellectual property rights outside the United States. Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but where enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of, and may require a compulsory license to, patents, trade secrets and other intellectual property protection, particularly those relating to biopharmaceutical products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products against third parties in violation of our proprietary rights generally. The initiation of proceedings by third parties to challenge the scope or validity of our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions such as patent term adjustments and/or extensions, may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

If we do not obtain patent term extension and data exclusivity for any product candidates we may develop, our business may be materially harmed.

Depending upon the timing, duration and specifics of any FDA marketing approval of any product candidates we may develop, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Action of 1984 Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations, and prospects could be materially harmed.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Risks Related to Our Reliance on Third Parties

We rely on third parties to conduct certain aspects of our preclinical studies and clinical trials. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or comply with regulatory requirements, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.

We depend upon third parties to conduct certain aspects of our preclinical studies and clinical trials, under agreements with universities, medical institutions, CROs, strategic collaborators and others. We expect to have to negotiate budgets and contracts with such third parties, which may result in delays to our development timelines and increased costs.

We will rely especially heavily on third parties over the course of our clinical trials, and, as a result, will have limited control over the clinical investigators and limited visibility into their day-to-day activities, including with respect to their compliance with the approved clinical protocol. Nevertheless, we are responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with GCP requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, clinical investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to suspend or terminate these trials or perform additional preclinical studies or clinical trials before approving our marketing applications. We cannot be certain that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP requirements.

Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Any third parties conducting aspects of our preclinical studies or clinical trials will not be our employees and, except for remedies that may be available to us under our agreements with such third parties, we cannot control whether or not they devote sufficient time and resources to our preclinical studies and clinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other product development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the preclinical or clinical data they obtain is compromised due to the failure to adhere to our protocols or regulatory requirements or for other reasons, our development timelines, including clinical development timelines, may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our product candidates. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

If any of our relationships with these third-party CROs or others terminate, we may not be able to enter into arrangements with alternative CROs or other third parties or to do so on commercially reasonable terms.

Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO begins work. As a result, delays may occur, which can materially impact our ability to meet our desired development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

We rely on third parties for tissue samples and other materials required for our research and development activities, and if we are unable to reach agreements with these third parties our research and development activities would be delayed.

We rely on third parties, primarily hospitals, health clinics and academic institutions, for the provision of tissue samples and other materials required in our research and development activities. Obtaining these materials requires various approvals as well as reaching a commercial agreement on acceptable terms with the hospital or other provider of the materials. While we currently have agreements in place with the institutions from which we receive our tissue samples, we do not have any exclusive arrangements with such sources and there is no guarantee that we will be able to maintain or renew such agreements on commercially reasonable terms, if at all. If we were unable to maintain or renew such agreements we would be forced to seek new arrangements with new hospitals, clinics or health institutions. If so, we may not be able to reach agreements with alternative partners or do so on terms acceptable to us. If we are unable to enter into such agreements, our research and development activities will be delayed and our ability to implement a key part of our development strategy will be compromised.

Because we rely on third-party manufacturing and supply vendors, our supply of research and development, preclinical and clinical development materials may become limited or interrupted or may not be of satisfactory quantity or quality.

We rely on third-party contract manufacturers to manufacture our product candidates for preclinical studies and clinical trials. We do not own manufacturing facilities for producing any clinical trial product supplies. There can be no assurance that our preclinical and clinical development product supplies will not be limited,

interrupted, or of satisfactory quality or continue to be available at acceptable prices. For example, the extent to which the COVID-19 coronavirus pandemic impacts our ability to procure sufficient supplies for the development of our product candidates will depend on the severity and duration of the spread of the virus, and the actions undertaken to contain COVID-19 or treat its effects. In particular, any replacement of our manufacturer could require significant effort and expertise because there may be a limited number of qualified replacements.

The manufacturing process for a product candidate is subject to FDA and foreign regulatory authority review. Suppliers and manufacturers must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by regulatory authorities in order to comply with regulatory standards, such as cGMPs. In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third-party, which we may not be able to do on reasonable terms, if at all. In some cases, the technical skills or technology required to manufacture our product candidates may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third-party and a feasible alternative may not exist. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to have another third-party manufacture our product candidates. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop product candidates in a timely manner or within budget.

We expect to continue to rely on third-party manufacturers if we receive regulatory approval for PLN-74809 or any other product candidate. To the extent that we have existing, or enter into future, manufacturing arrangements with third parties, we will depend on these third parties to perform their obligations in a timely manner consistent with contractual and regulatory requirements, including those related to quality control and assurance. If we are unable to obtain or maintain third-party manufacturing for product candidates, or to do so on commercially reasonable terms, we may not be able to develop and commercialize our product candidates successfully. Our or a third-party's failure to execute on our manufacturing requirements and comply with cGMP could adversely affect our business in a number of ways, including:

- an inability to initiate or continue clinical trials of product candidates under development;
- delay in submitting regulatory applications, or receiving regulatory approvals, for product candidates;
- loss of the cooperation of an existing or future collaborator;
- subjecting third-party manufacturing facilities or our manufacturing facilities to additional inspections by regulatory authorities;
- requirements to cease distribution or to recall batches of our product candidates; and
- in the event of approval to market and commercialize a product candidate, an inability to meet commercial demands for our products.

We rely on a sole supplier for the manufacture of PLN-74809. If this sole supplier is unable to supply to us in the quantities we require, or at all, or otherwise defaults on its supply obligations to us, we may not be able to obtain alternative supplies from other suppliers on acceptable terms, in a timely manner, or at all. We also do not have long-term supply agreements with any of our suppliers. Our current contracts with certain suppliers may be canceled or not extended by such suppliers and, therefore, do not afford us with protection against a reduction or interruption in supplies. Moreover, in the event any of these suppliers breach their contracts with us, our legal remedies associated with such a breach may be insufficient to compensate us for any damages we may suffer.

In addition, we contract with fill and finishing providers with the appropriate expertise, facilities and scale to meet our needs. Failure to maintain cGMP can result in a contractor receiving FDA sanctions, which can impact our ability to operate or lead to delays in any clinical development programs. We believe that our current fill and finish contractor is operating in accordance with cGMP, but we can give no assurance that FDA or other regulatory agencies will not conclude that a lack of compliance exists. In addition, any delay in contracting for fill and finish services, or failure of the contract manufacturer to perform the services as needed, may delay any clinical trials, registration and launches, which could negatively affect our business.

Future collaborations will be important to our business. If we are unable to enter into new collaborations, or if these collaborations are not successful, our business could be adversely affected.

A part of our strategy is to selectively evaluate partnerships in indications and geographies where we believe partners can add significant commercial and/or development capabilities. Further, we have limited capabilities for product development and do not yet have any capability for commercialization. Accordingly, we may enter into collaborations with other companies to provide us with important technologies and funding for our programs and technology.

Our existing collaborations and any future collaborations we enter into may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs or license arrangements based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as a strategic transaction that may divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products and product candidates if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- collaborators may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- collaborators with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product or products;
- collaborators may not provide us with timely and accurate information regarding development progress and activity under any future license agreement, which could adversely impact our ability to report progress to our investors and otherwise plan development of our product candidates;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or terminations of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to

product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;

- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- if a collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us; and
- collaborations may be terminated by the collaborator, and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

If our collaborations do not result in the successful discovery, development and commercialization of product candidates or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under such collaboration. All of the risks relating to product development, regulatory approval and commercialization described in this prospectus also apply to the activities of our therapeutic collaborators.

Additionally, if one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our perception in the business and financial communities could be adversely affected.

We face significant competition in seeking appropriate collaborators for our product candidates, and the negotiation process is time-consuming and complex. In order for us to successfully establish a collaboration for one or more of our product candidates, potential collaborators must view these product candidates as economically valuable in markets they determine to be attractive in light of the terms that we are seeking and other available products for licensing by other companies. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large biopharmaceutical companies that have resulted in a reduced number of potential future collaborators. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms, or at all. If we fail to enter into collaborations or do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates, bring them to market and generate revenue from sales of drugs or continue to develop our technology, and our business may be materially and adversely affected. Even if we are successful in our efforts to establish new strategic collaborations, the terms that we agree upon may not be favorable to us, and we may not be able to maintain such strategic collaborations if, for example, development or approval of a product candidate is delayed or sales of an approved product are disappointing. Any delay in entering into new strategic collaboration agreements related to our product candidates could delay the development and commercialization of our product candidates and reduce their competitiveness even if they reach the market.

Risks Related to Managing Our Business and Operations

We may encounter difficulties in managing our growth, which could adversely affect our operations.

As of December 31, 2019, we had 62 full-time employees. As our clinical development and commercialization plans and strategies develop, and as we transition into operating as a public company, we will need to expand our managerial, clinical, regulatory, sales, marketing, financial, development, manufacturing and legal capabilities or contract with third parties to provide these capabilities for us. As our operations expand, we expect that we will need to manage additional relationships with various strategic collaborators, suppliers and other third parties. Our future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our development and commercialization efforts effectively, including the clinical and FDA review process for PLN-74809 and any other product candidates, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our ability to continue to develop and, if approved, commercialize our product candidates will depend, in part, on our ability to effectively manage any future growth. Our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services, including contract manufacturers and companies focused on research and development and discovery activities. There can be no assurance that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality, accuracy or quantity of the services provided is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain, or may be substantially delayed in obtaining, regulatory approval of our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize PLN-74809 or any other product candidates and, accordingly, may not achieve our research, development and commercialization goals.

We may acquire additional technology and complementary businesses in the future. Acquisitions involve many risks, any of which could materially harm our business, including the diversion of management's attention from core business concerns, failure to effectively exploit acquired technologies, failure to successfully integrate the acquired business or realize expected synergies or the loss of key employees from either our business or the acquired businesses.

If we lose key management personnel, or if we fail to recruit additional highly skilled personnel, our ability to develop current product candidates or identify and develop new product candidates will be impaired, could result in loss of markets or market share and could make us less competitive.

Our ability to compete in the highly competitive biotechnology and biopharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on our management, scientific and medical personnel, including Bernard Coulie, M.D., Ph.D., our

Chief Executive Officer and President, Keith Cummings, M.D., our Chief Financial Officer, Johannes (Hans) Hull, J.D., our Chief Business Officer and Éric Lefebvre, M.D., our Chief Medical Officer. The loss of the services of any of our executive officers, other key employees, and other scientific and medical advisors, and our inability to find suitable replacements could result in delays in product development and harm our business.

We conduct our operations at our facility in South San Francisco, California. This region is headquarters to many other biopharmaceutical companies, biotechnology companies and research institutions. Competition for skilled personnel in our market is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided restricted stock awards and stock options that vest over time. The value to employees of restricted stock awards and stock options that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Our key employees are at-will employees, which means that any of our employees could leave our employment at any time, with or without notice. We do not maintain “key person” insurance policies on the lives of these individuals or the lives of any of our other employees. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior scientific and medical personnel.

Our internal computer systems, or those of our collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs.

Our internal computer systems and those of our current and any future collaborators and other contractors or consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information or other similar disruptions. For example, the loss of clinical trial data from future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position could be harmed and the further development and commercialization of our product candidates could be delayed.

We could be subject to risks caused by misappropriation, misuse, leakage, falsification or intentional or accidental release or loss of information maintained in the information systems and networks of our company and our vendors, including personal information of our employees and study subjects, and company and vendor confidential data. In addition, outside parties may attempt to penetrate our systems or those of our vendors or fraudulently induce our personnel or the personnel of our vendors to disclose sensitive information in order to gain access to our data and/or systems. We may experience threats to our data and systems, including malicious codes and viruses, phishing and other cyberattack. The number and complexity of these threats continue to increase over time. If a material breach of, or accidental or intentional loss of data from, our information technology systems or those of our vendors occurs, the market perception of the effectiveness of our security measures could be harmed and our reputation and credibility could be damaged. We could be required to expend significant amounts of money and other resources to repair or replace information systems or networks. In addition, we could be subject to regulatory actions and/or claims made by individuals and groups in private litigation involving privacy issues related to data collection and use practices and other data privacy laws and regulations, including claims for misuse or inappropriate disclosure of data, as well as unfair or deceptive practices. Although we develop and maintain systems and controls designed to prevent these events from

occurring, and we have a process to identify and mitigate threats, the development and maintenance of these systems, controls and processes is costly and requires ongoing monitoring and updating as technologies change and efforts to overcome security measures become increasingly sophisticated. Moreover, despite our efforts, the possibility of these events occurring cannot be eliminated entirely. As we outsource more of our information systems to vendors, engage in more electronic transactions with payors and patients, and rely more on cloud-based information systems, the related security risks will increase and we will need to expend additional resources to protect our technology and information systems. In addition, there can be no assurance that our internal information technology systems or those of our third-party contractors, or our consultants' efforts to implement adequate security and control measures, will be sufficient to protect us against breakdowns, service disruption, data deterioration or loss in the event of a system malfunction, or prevent data from being stolen or corrupted in the event of a cyberattack, security breach, industrial espionage attacks or insider threat attacks which could result in financial, legal, business or reputational harm.

Our current operations are concentrated in one location, and we or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster, including earthquakes, outbreak of disease or other natural disasters.

Our current operations are located in our facilities in South San Francisco, California. Any unplanned event, such as flood, fire, explosion, earthquake, extreme weather condition, medical epidemics, power shortage, telecommunication failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities, or the manufacturing facilities of our third-party contract manufacturers, may have a material and adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on our financial and operating conditions. Loss of access to these facilities may result in increased costs, delays in the development of our product candidates or interruption of our business operations. Earthquakes or other natural disasters could further disrupt our operations, and have a material and adverse effect on our business, financial condition, results of operations and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our research facilities or the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. For example, in December 2019, an outbreak of a novel strain of coronavirus, or the COVID-19 coronavirus, originated in Wuhan, China. To date, this outbreak has already resulted in extended shutdowns of certain businesses in the Wuhan region and has had ripple effects to businesses around the world. An outbreak of communicable diseases in China or elsewhere, or the perception that such an outbreak could occur, and the measures taken by the governments of countries affected, could adversely affect our business, financial condition or results of operations by limiting our ability to manufacture products within or outside China, forcing temporary closure of facilities that we rely upon or increasing the costs associated with obtaining clinical supplies of our product candidates. This virus continues to spread globally and, as of April 2020, has spread to a number countries, including the United States. The outbreak and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. In response to the spread of COVID-19, we have closed our executive offices with our administrative employees continuing their work outside of our offices and limited the number of staff in any given research and development laboratory. As a result of the COVID-19 pandemic, our clinical trials with universities were temporarily delayed and our ability to identify and enroll patients in future clinical trials may become more difficult and costly. The full extent to which the COVID-19 coronavirus impacts our business, preclinical trials and financial results will depend on future developments, which are highly uncertain and cannot be accurately predicted, including new information which may emerge concerning the severity of the COVID-19 coronavirus and the actions to contain the COVID-19 coronavirus or treat its impact, among others. Global health concerns, such as the COVID-19 coronavirus,

could also result in social, economic, and labor instability in the countries in which we or the third parties with whom we engage operate.

The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, could have a material adverse effect on our business. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business. However, in the event of an accident or incident at these facilities, we cannot assure you that the amounts of insurance will be sufficient to satisfy any damages and losses. If our facilities, or the manufacturing facilities of our third-party contract manufacturers, are unable to operate because of an accident or incident or for any other reason, even for a short period of time, any or all of our research and development programs may be harmed.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. Portions of our future clinical trials may be conducted outside of the United States and unfavorable economic conditions resulting in the weakening of the U.S. dollar would make those clinical trials more costly to operate. Furthermore, the most recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including a reduced ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy or international trade disputes could also strain our suppliers, some of which are located outside of the United States, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

The increasing use of social media platforms presents new risks and challenges.

Social media is increasingly being used to communicate about our clinical development programs and the diseases our therapeutics are being developed to treat, and we intend to utilize appropriate social media in connection with our commercialization efforts following approval of our product candidates, if any. Social media practices in the biopharmaceutical industry continue to evolve and regulations and regulatory guidance relating to such use are evolving and not always clear. This evolution creates uncertainty and risk of noncompliance with regulations applicable to our business, resulting in potential regulatory actions against us, along with the potential for litigation related to off-label marketing or other prohibited activities. For example, patients may use social media channels to comment on their experience in an ongoing blinded clinical trial or to report an alleged adverse event. When such disclosures occur, there is a risk that trial enrollment may be adversely impacted, we fail to monitor and comply with applicable adverse event reporting obligations or that we may not be able to defend our business or the public's legitimate interests in the face of the political and market pressures generated by social media due to restrictions on what we may say about our product candidates. There is also a risk of inappropriate disclosure of sensitive information or negative or inaccurate posts or comments about us on any social networking website. If any of these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face regulatory actions or incur other harm to our business.

The estimates of market opportunity and forecasts of market growth included in this prospectus may prove to be inaccurate, and even if the markets in which we compete achieve the forecasted growth, our business may not grow at similar rates, or at all.

Market opportunity estimates and growth forecasts included in this prospectus are subject to significant uncertainty and are based on assumptions and estimates which may not prove to be accurate. The estimates and forecasts included in this prospectus relating to size and expected growth of our target market may prove to be inaccurate. Even if the markets in which we compete meet the size estimates and growth forecasts included in

this prospectus, our business may not grow at similar rates, or at all. Our growth is subject to many factors, including our success in implementing our business strategy, which is subject to many risks and uncertainties.

Our employees, independent contractors, consultants, commercial partners, collaborators and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of employee fraud or other illegal activity by our employees, independent contractors, consultants, commercial partners, collaborators and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to comply with the laws of the FDA and other similar foreign regulatory bodies, provide true, complete and accurate information to the FDA and other similar foreign regulatory bodies, comply with manufacturing standards we have established, comply with healthcare fraud and abuse laws in the United States and similar foreign fraudulent misconduct laws, or report financial information or data accurately or to disclose unauthorized activities to us. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the United States, our potential exposure under such laws will increase significantly, and our costs associated with compliance with such laws will also increase. These laws may impact, among other things, our current activities with principal investigators and research patients, as well as proposed and future sales, marketing and education programs. In connection with this offering, we will adopt a code of business conduct and ethics, but it is not always possible to identify and deter misconduct by our employees, independent contractors, consultants, commercial partners and vendors, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could result in the imposition of civil, criminal and administrative penalties, damages, monetary fines, imprisonment, disgorgement, possible exclusion from participation in government healthcare programs, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings and the curtailment of our operations.

Pandemics such as the COVID-19 coronavirus could have an adverse impact on our developmental programs and our financial condition.

In December 2019, a novel strain of the COVID-19 coronavirus was first identified in Wuhan, Hubei Province, China. This virus continues to spread globally and, as of April 2020, has spread to a number countries, including the United States. The outbreak and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. In response to the spread of COVID-19, we have closed our executive offices with our administrative employees continuing their work outside of our offices and limited the number of staff in any given research and development laboratory. As a result of the COVID-19 pandemic, we may experience disruptions that could severely impact our business, preclinical studies and clinical trials, including disruptions or restrictions on our ability to travel, pursue partnerships and other business transactions, conduct clinical trials, make shipments of biologic materials, as well as be impacted by the temporary closure of the facilities of suppliers and clinical trial sites. As a result of the COVID-19 pandemic, our clinical trials with universities were temporarily delayed and our ability to identify and enroll patients in future clinical trials may become more difficult and costly. Any limitation of suppliers, clinical trial sites or access to patients would further impact our clinical trial enrollment progress and rates as well as our ability to access capital through the financial markets. The extent to which the COVID-19 coronavirus impacts our business, preclinical studies and clinical trials and financial results will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the COVID-19 coronavirus and the actions to contain the COVID-19 coronavirus or treat its impact, among others.

We use and generate materials that may expose us to material liability.

Our research programs involve the use of hazardous materials and chemicals, which are currently only handled by third parties. We are subject to foreign, federal, state and local environmental and health and safety laws and regulations governing, among other matters, the use, manufacture, handling, storage and disposal of hazardous materials and waste products such as human tissue samples that may have the potential to transmit diseases. We may incur significant costs to comply with these current or future environmental and health and safety laws and regulations. In addition, we cannot completely eliminate the risk of contamination or injury from hazardous materials and may incur material liability as a result of such contamination or injury. In the event of an accident, an injured party may seek to hold us liable for any damages that result. Any liability could exceed the limits or fall outside the coverage of our workers' compensation, property and business interruption insurance and we may not be able to maintain insurance on acceptable terms, if at all. We currently carry no insurance specifically covering environmental claims.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our research and development activities involve the use of biological and hazardous materials and produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials, which could cause an interruption of our commercialization efforts, research and development efforts and business operations, environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. Although we believe that the safety procedures utilized by our third-party manufacturers for handling and disposing of these materials generally comply with the standards prescribed by these laws and regulations, we cannot guarantee that this is the case or eliminate the risk of accidental contamination or injury from these materials. In such an event, we may be held liable for any resulting damages and such liability could exceed our resources and state or federal or other applicable authorities may curtail our use of certain materials and/or interrupt our business operations. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent. We cannot predict the impact of such changes and cannot be certain of our future compliance. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities. We do not carry specific biological waste or hazardous waste insurance coverage, workers compensation or property and casualty and general liability insurance policies that include coverage for damages and fines arising from biological or hazardous waste exposure or contamination.

Compliance with governmental regulations regarding the treatment of animals used in research could increase our operating costs, which would adversely affect the commercialization of our products.

The Animal Welfare Act, or AWA, is the federal law that covers the treatment of certain animals used in research. Currently, the AWA imposes a wide variety of specific regulations that govern the humane handling, care, treatment and transportation of certain animals by producers and users of research animals, most notably relating to personnel, facilities, sanitation, cage size, and feeding, watering and shipping conditions. Third parties with whom we contract are subject to registration, inspections and reporting requirements under the AWA.

Furthermore, some states have their own regulations, including general anti-cruelty legislation, which establish certain standards in handling animals. Comparable rules, regulations, and or obligations exist in many foreign jurisdictions. If we or our contractors fail to comply with regulations concerning the treatment of animals used in research, we may be subject to fines and penalties and adverse publicity, and our operations could be adversely affected.

Changes in tax law could adversely affect our financial condition and results of operations.

The rules dealing with U.S. federal, state, and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect us or holders of our common stock. In recent years, many such changes have been made and changes are likely to continue to occur in the future. Future changes in tax laws could have a material adverse effect on our business, cash flow, financial condition or results of operations. We urge investors to consult with their legal and tax advisers regarding the implications of potential changes in tax laws on an investment in our common stock.

Our ability to use our net operating loss carryforwards and certain tax credit carryforwards may be subject to limitation.

As of December 31, 2019, we had net operating loss carryforwards for federal and state income tax purposes of $58.7 million and $60.7 million, respectively, some of which will begin to expire in 2035. As of December 31, 2019, we also had available tax credit carryforwards for federal income tax purposes of $4.7 million, which begin to expire in 2036, and state income tax purposes of $2.1 million. Under Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”), changes in our ownership may limit the amount of our net operating loss carryforwards and tax credit carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of our company of more than 50 percentage points within a three-year period. Any such limitation may significantly reduce our ability to utilize our net operating loss carryforwards and tax credit carryforwards before they expire. Private placements and other transactions that have occurred since our inception, as well as this offering, may trigger such an ownership change pursuant to Section 382. Any such limitation, whether as the result of this offering, prior private placements, sales of our common stock by our existing stockholders or additional sales of our common stock by us, could have a material adverse effect on our results of operations in future years. Our ability to utilize those net operating loss carryforwards could be limited by an “ownership change” as described above, which could result in increased tax liability to us. Net operating losses generated after December 31, 2017 are not subject to expiration, but may not be carried back to prior taxable years. Additionally, the deductibility of such federal net operating losses is limited to 80% of our taxable income in any future taxable year.

Risks Related to Our Common Stock and this Offering

There has been no prior public market for our common stock, the stock price of our common stock may be volatile or may decline regardless of our operating performance and you may not be able to resell your shares at or above the initial public offering price.

Prior to this offering there has been no public market for shares of our common stock. You may not be able to sell your shares quickly or at the market price if trading in shares of our common stock is not active. The initial public offering price for our common stock will be determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of the common stock after the offering. An active or liquid market in our common stock may not develop upon the completion of this offering or, if it does develop, it may not be sustainable. As a result of these and other factors, you may be unable to resell your shares of our common stock at or above the initial public offering price.

Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic collaborations or acquire companies or products by using our shares of common stock as consideration.

The price of our stock may be volatile, and you could lose all or part of your investment.

The trading price of our common stock following this offering is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the commencement, enrollment or results of our planned Phase 2a clinical trials of PLN-74809;
- any delay in identifying and advancing a clinical candidate for our other development programs;
- any delay in our regulatory filings for PLN-74809 or our other product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- adverse results or delays in future clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- adverse regulatory decisions, including failure to receive regulatory approval of PLN-74809 or any other product candidate;
- changes in laws or regulations applicable to PLN-74809 or any other product candidate, including but not limited to clinical trial requirements for approvals;
- adverse developments concerning our manufacturers;
- our inability to obtain adequate product supply for any approved product or inability to do so at acceptable prices;
- our inability to establish collaborations, if needed;
- our failure to commercialize our product candidates, if approved;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of PLN-74809 or any other product candidate;
- introduction of new products or services offered by us or our competitors;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- our ability to effectively manage our growth;
- actual or anticipated variations in quarterly operating results;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or product candidates in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- changes in the market valuations of similar companies;
- changes in the structure of the healthcare payment systems;
- overall performance of the equity markets;
- sales of our common stock by us or our stockholders in the future;
- trading volume of our common stock;

- changes in accounting practices;
- ineffectiveness of our internal controls;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- significant lawsuits, including patent or stockholder litigation;
- general political and economic conditions; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general, and the market for biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies, including as a result of the COVID-19 coronavirus pandemic. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. If the market price of our common stock after this offering does not exceed the initial public offering price, you may not realize any return on your investment in us and may lose some or all of your investment. In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Furthermore, future debt or other financing arrangements may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Any return to stockholders will therefore be limited to the appreciation of their stock.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Immediately following the completion of this offering, our executive officers, directors and their affiliates will beneficially hold, in the aggregate, approximately % of our outstanding voting stock. These stockholders, acting together, would be able to significantly influence all matters requiring stockholder approval. For example, these stockholders would be able to significantly influence elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price will be substantially higher than the pro forma as adjusted net tangible book value per share of our common stock after this offering. Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the pro forma as adjusted net tangible book value per share after this offering. As a result, investors purchasing common stock in this offering will incur immediate dilution of $ per share, based on an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, representing the difference between our pro forma as adjusted net tangible book value per share after giving effect to this offering and the assumed initial public offering price. Further, investors purchasing common stock in this offering will contribute approximately % of the total amount invested by stockholders since our inception, but will own only approximately % of the shares of common stock outstanding after this offering.

This dilution is due to our investors who purchased shares prior to this offering having paid substantially less when they purchased their shares than the price offered to the public in this offering. To the extent outstanding options are exercised, there will be further dilution to new investors. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. For a further description of the dilution that you will experience immediately after this offering, see the section entitled "Dilution."

We are an emerging growth company, and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an emerging growth company, or EGC, as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012. For as long as we continue to be an EGC, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not EGCs, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements and exemptions from the requirements of holding nonbinding advisory votes on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an EGC for up to five years following the year in which we complete this offering, although circumstances could cause us to lose that status earlier. We will remain an EGC until the earlier of (i) the last day of the fiscal year (a) following the fifth anniversary of the completion of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion or (c) in which we are deemed to be a large accelerated filer, which requires the market value of our common stock that is held by non-affiliates to exceed $700.0 million as of the prior June 30th, and (ii) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of reduced reporting burdens in this prospectus. In particular, we have not included all of the executive compensation information that would be required if we were not an EGC. We cannot predict whether investors will find our common stock less attractive if we rely on certain or all of these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Under the JOBS Act, EGCs can also delay adopting new or revised accounting standards until such time as those standards apply to private companies, which may make our financial statements less comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We will incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. We will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, which will require, among other things, that we file with the SEC annual, quarterly and current reports with respect to our business and financial condition. In addition, the Sarbanes-Oxley Act, as well as rules subsequently adopted by the SEC and the Nasdaq Global Market to implement provisions of the Sarbanes-Oxley Act, impose significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial reporting controls and changes in corporate governance practices. Further, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas such as "say on pay" and proxy access. Recent legislation permits EGCs to implement many of these requirements over a longer period and up to five years from the pricing of this offering. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations

and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate.

We expect the rules and regulations applicable to public companies to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. If these requirements divert the attention of our management and personnel from other business concerns, they could have an adverse effect on our business. The increased costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business or increase the prices of our products or services. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock.

We will be required to disclose changes made in our internal controls and procedures on a quarterly basis and our management will be required to assess the effectiveness of these controls annually. However, for as long as we are an EGC, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We could be an EGC for up to five years. An independent assessment of the effectiveness of our internal controls over financial reporting could detect problems that our management's assessment might not. Undetected material weaknesses in our internal controls over financial reporting could lead to restatements of our financial statements and require us to incur the expense of remediation.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon completion of this offering, we will become subject to certain reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

Substantial amounts of our outstanding shares may be sold into the market when lock-up or market standoff periods end. If there are substantial sales of shares of our common stock, the price of our common stock could decline.

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our common stock could decline. Based on shares of common stock outstanding as of December 31, 2019, upon the completion of this offering we will have outstanding a total of shares of common stock. Of these shares, only the shares of common stock sold in this offering by us, plus any shares sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable without restriction in the public market immediately following this offering.

The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus, subject to earlier release of all or a portion of the shares subject to such agreements by the representatives of the underwriters in this offering in their sole discretion. After the lock-up agreements expire, based upon the number of shares of common stock, on an as-converted basis, outstanding as of December 31, 2019, up to an additional shares of common stock will be eligible for sale in the public market. Approximately % of these additional shares are beneficially held by directors, executive officers and their affiliates and will be subject to certain limitations of Rule 144 under the Securities Act of 1933, as amended, or the Securities Act.

In addition, shares of common stock that are either subject to outstanding options or reserved for future issuance under our existing equity compensation plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline. Additionally, the number of shares of our common stock reserved for issuance under 2020 Stock Option and Incentive Plan will automatically increase on January 1 of each year, beginning on January 1, 2021, by % of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors or compensation committee. Moreover, the number of shares of our common stock reserved for issuance under 2020 Employee Stock Purchase Plan will automatically increase on January 1 of each year, beginning on January 1, 2021, by % of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors or compensation committee. Unless our board of directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution.

After this offering, the holders of shares of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act as provided under the terms of an investors' rights agreement between us and the holders of our convertible preferred stock, subject to the 180-day lock-up agreements described above. See "Description of Capital Stock — Registration Rights." Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by affiliates, as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

We have broad discretion in the use of our existing cash and cash equivalents and the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of our existing cash and cash equivalents and the net proceeds from this offering, other than the payment required to be made to UCSF pursuant to our license agreement with them upon the closing of this offering, including for any of the purposes described in the section entitled "Use of Proceeds," and you will not have the opportunity as part of your investment decision to assess whether such proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of our existing cash and cash equivalents and the net proceeds from this offering, their ultimate

use may vary substantially from their currently intended use. Our management might not apply our existing cash and cash equivalents and the net proceeds from this offering in ways that ultimately increase the value of your investment. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

Anti-takeover provisions under our charter documents and Delaware law could delay or prevent a change of control which could limit the market price of our common stock and may prevent or frustrate attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and amended and restated bylaws, which are to become effective upon the completion of this offering, contain provisions that could delay or prevent a change of control of our company or changes in our board of directors that our stockholders might consider favorable. Some of these provisions include:

- a board of directors divided into three classes serving staggered three-year terms, such that not all members of the board will be elected at one time;
- a prohibition on stockholder action through written consent, which requires that all stockholder actions be taken at a meeting of our stockholders;
- a requirement that special meetings of stockholders be called only by the board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the directors then in office;
- advance notice requirements for stockholder proposals and nominations for election to our board of directors;
- a requirement that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of not less than two-thirds of all outstanding shares of our voting stock then entitled to vote in the election of directors;
- a requirement of approval of not less than two-thirds of all outstanding shares of our voting stock to amend any bylaws by stockholder action or to amend specific provisions of our certificate of incorporation; and
- the authority of the board of directors to issue convertible preferred stock on terms determined by the board of directors without stockholder approval and which convertible preferred stock may include rights superior to the rights of the holders of common stock.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the General Corporation Law of the State of Delaware, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. These anti-takeover provisions and other provisions in our amended and restated certificate of incorporation and amended and restated bylaws could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors and could also delay or impede a merger, tender offer or proxy contest involving our company. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing or cause us to take other corporate actions you desire. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may

never, publish research on our company. If no securities or industry analysts commence coverage of our company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price may decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

Our amended and restated by-laws will designate the Court of Chancery of the State of Delaware as the exclusive forum for certain state law litigation that may be initiated by our stockholders, which could limit our stockholders' ability to litigate disputes with us in a different judicial forum.

Pursuant to our amended and restated by-laws, as will be in effect upon the completion of this offering, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of a fiduciary duty or other wrongdoing by any of our directors, officers, employees or agents to us or our stockholders; (iii) any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware, our amended and restated certificate of incorporation or our amended and restated by-laws; (iv) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or by-laws; or (v) any action asserting a claim governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. This exclusive forum provision will not apply to any causes of action arising under the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Unless we consent in writing to the selection of an alternate forum, the United States District Court for the Northern District of California shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. The forum selection clause in our amended and restated by-laws may limit our stockholders' ability to litigate disputes with us in a different judicial forum.

Our issuance of additional capital stock in connection with financings, acquisitions, investments, our stock incentive plans or otherwise will dilute all other stockholders.

We expect to issue additional capital stock in the future that will result in dilution to all other stockholders. We expect to grant equity awards to employees, directors, and consultants under our stock incentive plans. We may also raise capital through equity financings in the future. As part of our business strategy, we may acquire or make investments in complementary companies, products, or technologies and issue equity securities to pay for any such acquisition or investment. Any such issuances of additional capital stock may cause stockholders to experience significant dilution of their ownership interests and the per share value of our common stock to decline.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” contains forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business operations and financial performance and condition that are based on our management’s belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- the success, cost and timing of our product development activities and clinical trials of our lead product candidate, PLN-74809, as well as PLN-1474 and our other product candidates;
- the success, cost and timing of completing IND-enabling studies of PLN-74809 in uses for PSC, and the timing of our planned Investigational New Drug Application, or IND, submissions for PLN-74809 in uses for PSC;
- our plans to initiate, recruit and enroll patients in, and conduct our clinical trials at the pace that we project;
- our plans and strategy to obtain and maintain regulatory approvals of our product candidates;
- our plans and strategy to obtain funding for our operations, including funding necessary to complete further development and, upon successful development, if approved, commercialize any of our product candidates;
- the potential benefit of orphan drug designations for PLN-74809;
- our ability to compete with companies currently marketing or engaged in the development of treatments for fibrosis;
- risks associated with the COVID-19 coronavirus outbreak, which may adversely impact our business, preclinical studies, clinical trials and financial results
- our plans and strategy regarding obtaining and maintaining intellectual property protection for our product candidates and the duration of such protection;
- our plans and strategy regarding the manufacture of our product candidates for clinical trials and for commercial use, if approved;
- our plans and strategy regarding the commercialization of any products that are approved for marketing;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets, either alone or in combination with others;
- our expectations regarding government and third-party payor coverage and reimbursement; and
- our expected use of the proceeds from this offering.

In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue” or the negative of these terms or other comparable terminology. These statements are only predictions. You should not

place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed in the section entitled “Risk factors” and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we assume no obligation to update or revise any forward-looking statements except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to rely unduly upon these statements.

MARKET AND INDUSTRY DATA AND FORECASTS

We obtained the industry, market and competitive position data used throughout this prospectus from our own internal estimates and research, as well as from independent market research, industry and general publications and surveys, governmental agencies and publicly available information in addition to research, surveys and studies conducted by third parties. Internal estimates are derived from publicly available information released by industry analysts and third-party sources, our internal research and our industry experience, and are based on assumptions made by us based on such data and our knowledge of our industry and market, which we believe to be reasonable. In some cases, we do not expressly refer to the sources from which this data is derived. In that regard, when we refer to one or more sources of this type of data in any paragraph, you should assume that other data of this type appearing in the same paragraph is derived from the same sources, unless otherwise expressly stated or the context otherwise requires. In addition, while we believe the industry, market and competitive position data included in this prospectus is reliable and based on reasonable assumptions, such data involve risks and uncertainties and are subject to change based on various factors, including those discussed in the section entitled “Risk Factors.” These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties or by us.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of shares of our common stock in this offering will be approximately $ million, or approximately $ million if the underwriters exercise in full their option to purchase additional shares, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the net proceeds to us from this offering by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million shares in the number of shares we are offering would increase or decrease, as applicable, the net proceeds to us from this offering by approximately $ million, assuming the assumed initial public offering price to the public remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We do not expect that a change in the initial price to the public or the number of shares by these amounts would have a material effect on the uses of the proceeds from this offering, although it may accelerate the time at which we will need to seek additional capital.

The principal purposes of this offering are to increase our financial flexibility, create a public market for our common stock and facilitate our future access to capital markets.

We currently expect to use the net proceeds from this offering as follows:

- approximately $ million to fund the clinical development of our lead product candidate, PLN-74809, including for conducting our currently enrolling Phase 2a clinical trials in IPF and planned Phase 2a trial in PSC;
- approximately $ million to fund the ongoing clinical trial of our second product candidate, PLN-1474;
- approximately $ million to fund the preclinical development of our early-stage programs in oncology and muscular dystrophy; and
- the remainder, if any, for business development activities, working capital and other general corporate purposes, including early stage research and development activities.

In addition, under our license agreement with UCSF, we are required to pay a sum of $ million, based on the assumed sale of shares of common stock in this offering and an assumed offering price of $ per share, which is the midpoint of the price range set forth on the cover of this prospectus. We plan to make this payment shortly following the completion of this offering from our existing cash resources.

Based on our current plans, we believe our existing cash and cash equivalents, together with the net proceeds from this offering, will be sufficient to fund our operating expenses and capital expenditure requirements through , including with respect to PLN-74809, through and with respect to PLN-1474 through .

We may also use a portion of the net proceeds to in-license, acquire or invest in new businesses, technology or assets. Although we have no current agreements, commitments or understandings with respect to any such in-license or acquisition, we evaluate such opportunities and engage in related discussions with third parties from time to time.

The expected use of net proceeds from this offering represents our intentions based upon our present plans and business conditions. We cannot specify with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering. Due to uncertainties inherent in the product development process, it is difficult to estimate the exact amounts of the net proceeds that will be used for any particular purpose. We may use our existing cash and cash equivalents and the future payments, if any, generated from any future collaboration agreements to fund our operations, either of which may alter the amount of net proceeds used for a particular purpose. In addition, the amount, allocation and timing of our actual expenditures will depend upon numerous factors, including the results of our research and development efforts, the timing and success of clinical trials and the timing of regulatory submissions. Accordingly, we will have broad discretion in using these proceeds.

Pending the uses described above, we plan to invest the net proceeds of this offering in short- and immediate- term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We do not anticipate paying any dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. Any future determination to declare dividends will be subject to the discretion of our board of directors and will depend on various factors, including applicable laws, our results of operations, financial condition, future prospects and any other factors deemed relevant by our board of directors. Investors should not purchase our common stock with the expectation of receiving cash dividends.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of December 31, 2019:

- on an actual basis;
- on a pro forma basis to give effect to (i) our issuance and sale in February 2020 of an additional 28,527,313 shares of Series C redeemable convertible preferred stock for gross proceeds of $52.2 million; (ii) the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 131,861,966 shares of our common stock as if such conversion had occurred on December 31, 2019, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering; and
- on a pro forma as adjusted basis to give effect to (i) the pro forma adjustments described above, and (ii) the issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information together with our financial statements and related notes appearing elsewhere in this prospectus and the information set forth in the sections entitled "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	As of December 31, 2019		
	Actual	Pro Forma	Pro Forma As Adjusted(1)
	(in thousands, except share and per share data)		
Cash, cash equivalents and short-term investments	$102,773	$	$
Redeemable convertible preferred stock, par value $0.0001 per share; 149,501,221 shares authorized, 131,861,966 issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	$186,275	$	
Stockholders' (deficit) equity:			
Common stock, par value $0.0001 per share; 181,000,000 shares authorized, 13,199,073 shares issued and outstanding, actual; shares authorized, 147,221,857 shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted(2)			
Preferred stock, $0.0001 par value per share; no shares authorized, issued or outstanding, actual; shares authorized, no shares issued or outstanding, pro forma and pro forma as adjusted			—
Additional paid-in capital			
Accumulated deficit	(76,295)		
Accumulated other comprehensive loss	(1)		
Total stockholders' deficit	(76,295)		
Total capitalization	$109,980	$	$

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million shares in the number of shares we are offering would increase or decrease, as applicable, each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' (deficit)

equity, and total capitalization by approximately $ million, assuming the assumed initial public offering price per share, as set forth on the cover page of this prospectus, remains the same. The pro forma as adjusted information is illustrative only, and we will adjust this information based on the actual initial public offering price and other terms of this offering determined at pricing.

(2) Shares issued and outstanding, actual, pro forma and pro forma as adjusted excludes 2,160,814 unvested restricted shares subject to repurchase.

The number of shares of common stock issued and outstanding pro forma and pro forma as adjusted in the table above is based on 147,221,857 shares of common stock (including our redeemable convertible preferred stock on an as-converted basis) outstanding as of December 31, 2019, and excludes:

- 28,527,313 shares of common stock issuable upon the conversion of our Series C redeemable convertible preferred stock issued in February 2020;
- 9,593,137 shares of common stock issuable upon exercise of outstanding options issued as of December 31, 2019 under our 2015 Plan, at a weighted-average exercise price of $0.45 per share, or pursuant to rights to purchase restricted stock at a weighted average purchase price of $0.01 per share;
- 4,054,837 shares of common stock reserved for future issuance under our 2015 Plan as of December 31, 2019;
- An increase in the number of shares of our common stock reserved for future issuance under the 2015 Plan after December 31, 2019 by an additional 12,459,441 shares (from which options to purchase an aggregate of 9,118,186 shares of common stock were granted under the 2015 Plan after December 31, 2019, at a weighted-average exercise price of $0.87 per share);
- shares of our common stock reserved for future issuance under our 2020 Plan, which will become available for issuance upon the effectiveness of the registration statement of which this prospectus is a part; and
- shares of our common stock reserved for future issuance under our 2020 ESPP, which will become available for issuance upon the effectiveness of the registration statement of which this prospectus is a part.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book (deficit) value per share of our common stock immediately after this offering.

Our historical net tangible book (deficit) value per share as of December 31, 2019 is determined by dividing our total tangible assets less our total liabilities and redeemable convertible preferred stock, which are not included within stockholders' deficit, by the number of shares of common stock outstanding as of such date. Our historical net tangible book value (deficit) was $(76.3) million, or $(4.97) per share as of December 31, 2019.

Our pro forma net tangible book value (deficit) as of December 31, 2019 was $ million, or $ per share. Our pro forma net tangible book value (deficit) per share represents the amount of our total tangible assets reduced by the amount of our total liabilities and divided by the total number of shares of our common stock outstanding as of December 31, 2019, assuming (i) our issuance and sale in February 2020 of 28,527,313 shares of Series C redeemable convertible preferred stock for gross proceeds of $52.2 million and (ii) the automatic conversion of all outstanding shares of our redeemable convertible preferred stock as of December 31, 2019 into an aggregate of 131,861,966 shares of common stock, which conversion will occur immediately prior to the completion of this offering.

Our pro forma as adjusted net tangible book value (deficit) represents our pro forma net tangible book (deficit) value, plus the effect of the sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Net tangible book value dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the pro forma as adjusted net tangible book value per share of common stock immediately after completion of this offering. After giving effect to our sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2019 would have been $ million, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and an immediate dilution in net tangible book value of $ per share to purchasers of common stock in this offering, as illustrated in the following table:

Assumed initial public offering price per share		$
Historical net tangible book value (deficit) per share as of December 31, 2019	$(4.97)	
Pro forma increase in net tangible book value (deficit) per share as of December 31, 2019		
Pro forma net tangible book value (deficit) per share as of December 31, 2019		
Increase in pro forma net tangible book value per share attributable to new investors participating in this offering		
Pro forma as adjusted net tangible book value (deficit) per share after this offering		
Dilution per share to new investors participating in this offering		$

If the underwriters' option to purchase additional shares from us is exercised in full, the pro forma as adjusted net tangible book value per share after this offering would be $ per share, the increase in pro forma as adjusted net tangible book value per share to existing stockholders would be $ per share and the dilution to new investors purchasing shares in this offering would be $ per share.

Each $1.00 increase or decrease in the assumed public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by $ million, or $ per share, and dilution per share to investors in

this offering by $ per share, assuming that the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting underwriting discounts and commissions, and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million shares in the number of shares we are offering would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by approximately $ million, or approximately $ per share and would increase or decrease, as applicable, dilution per share to investors in this offering by approximately $ per share, assuming the assumed initial public offering price per share remains the same and after deducting underwriting discounts and commissions, and estimated offering expenses payable by us.

If the underwriters' option to purchase additional shares from us is exercised in full, the pro forma as adjusted net tangible book value per share after this offering would be $ per share, the increase in pro forma as adjusted net tangible book value per share to existing stockholders would be $ per share and the dilution to new investors purchasing shares in this offering would be $ per share.

The following table shows, as of December 31, 2019, on a pro forma as adjusted basis described above (but before deducting underwriting discounts and commissions and estimated offering expenses payable by us), the differences between the existing stockholders and the purchasers of shares in this offering with respect to the number of shares purchased from us, the total consideration paid, which includes net proceeds received from the issuance of common and redeemable convertible preferred stock, cash received from the exercise of stock options, and the value of any stock issued for services and the average price paid per share (in thousands, except per share amounts and percentages):

	Shares Purchased		Total Consideration		Weighted-Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders before this offering		%	$	%	$
New investors participating in this offering					$
Totals		100%	$	100%	

The foregoing tables and calculations (other than the historical net tangible book value calculations) are based on 147,221,857 shares of common stock (including our redeemable convertible preferred stock on an as converted basis) outstanding as of December 31, 2019 and excludes:

- 28,527,313 shares of common stock issuable upon the conversion of our Series C redeemable convertible preferred stock issued in February 2020;
- 9,593,137 shares of common stock issuable upon exercise of outstanding options issued as of December 31, 2019 under our 2015 Plan, at a weighted-average exercise price of $0.45 per share, or pursuant to rights to purchase restricted stock at a weighted average purchase price of $0.01 per share;
- 4,054,837 shares of common stock reserved for future issuance under our 2015 Plan as of December 31, 2019;
- An increase in the number of shares of our common stock reserved for future issuance under the 2015 Plan after December 31, 2019 by an additional 12,459,441 shares (from which options to purchase an aggregate of 9,118,186 shares of common stock were granted under the 2015 Plan after December 31, 2019, at a weighted-average exercise price of $0.87 per share);
- shares of our common stock reserved for future issuance under our 2020 Plan, which will become available for issuance upon the effectiveness of the registration statement of which this prospectus is a part; and
- shares of our common stock reserved for future issuance under our 2020 ESPP, which will become available for issuance upon the effectiveness of the registration statement of which this prospectus is a part.

To the extent that any outstanding options are exercised, new options are issued under our stock-based compensation plans or we issue additional shares of common stock or convertible debt in the future, there will be further dilution to investors participating in this offering.

SELECTED FINANCIAL DATA

The following tables present selected financial data for our business. We have derived the selected statements of operations data for the years ended December 31, 2018 and 2019 and the selected balance sheet data as of December 31, 2018 and 2019 from our audited financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future and our operating results for the year ended December 31, 2019 are not necessarily indicative of the actual or expected results for any other interim periods or any future period. You should read this data together with our financial statements and related notes appearing elsewhere in this prospectus and the information in the section entitled "Management Discussion and Analysis of Financial Condition and Results of Operations."

(In thousands, except share and per share amounts)	Years Ended December 31, 2018	2019
Statements of Operations Data:		
Revenue—related party	$ —	$ 57,052
Operating expenses:		
Research and development	(24,415)	(47,353)
General and administrative	(6,500)	(10,930)
Total operating expenses	(30,915)	(58,283)
Loss from operations	(30,915)	(1,231)
Interest income	688	816
Other income (expense), net	(49)	(216)
Net loss	$ (30,276)	$ (631)
Accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	$ (4,876)	(6,225)
Net loss attributable to common stockholders	$ (35,152)	$ (6,856)
Net loss per share attributable to common stockholders, basic and diluted(1)	$ (4.22)	$ (0.59)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted(1)	8,333,000	11,608,180
Pro forma net loss per share attributable to common stockholders, basic and diluted(1)		$
Weighted-average shares outstanding used in computing pro forma net loss per share attributable to common stockholders, basic and diluted(1)		

(1) See Notes 2 and 16 to our audited financial statements included elsewhere in the prospectus for an explanation of the calculations of our basic and diluted net loss per share, pro forma net loss per share and the weighted-average number of shares used in the computation of the per share amounts.

(In thousands)	As of December 31, 2018	2019
Balance Sheets Data:		
Cash, cash equivalents and short-term investments	$ 60,949	$102,773
Working capital(1)	56,649	103,728
Total assets	66,529	119,064
Redeemable convertible preferred stock	132,103	186,275
Accumulated deficit	(71,470)	(76,295)
Total stockholders' deficit	(71,469)	(76,295)

(1) We define working capital as current assets less current liabilities. See our financial statements and related notes appearing elsewhere in this prospectus for details regarding our current assets and current liabilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the section entitled "Selected Financial Data" and our financial statements and related notes appearing elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as our plans, objectives, expectations, intentions and beliefs. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section entitled "Risk Factors."

Overview

We are a clinical stage biopharmaceutical company focused on discovering and developing novel therapies for the treatment of fibrosis. Our initial focus is on treating fibrosis by inhibiting integrin-mediated activation of TGF-ß. We have applied our deep understanding of fibrosis biology, along with our medicinal chemistry and translational medicine expertise to develop a set of proprietary tools designed to discover and de-risk product candidates quickly and efficiently. Our wholly-owned lead product candidate, PLN-74809, is an oral small-molecule dual selective inhibitor of avß6 and avß1 integrins that we are developing for the treatment of idiopathic pulmonary fibrosis, or IPF, and primary sclerosing cholangitis, or PSC. We have completed a Phase 1a SAD/MAD trial and a Phase 1b proof-of-mechanism trial of PLN-74809 in IPF. We are currently enrolling two Phase 2a trials of PLN-74809 in IPF. We also plan to submit an IND for PLN-74809 for the treatment of PSC in the first half of 2020, and plan to initiate a Phase 2a PSC trial thereafter. Our second product candidate, PLN-1474, is a small-molecule selective inhibitor of avß1 for the treatment of liver fibrosis associated with NASH, which we have partnered with Novartis. PLN-1474 is currently undergoing a Phase 1 trial with top-line data expected in the second half of 2020. In addition to our clinical programs, we currently have preclinical integrin-based programs in lead-optimization stage targeting oncology and muscular dystrophies.

In October 2019, we entered into a Collaboration and License Agreement with Novartis, or the Novartis Agreement, for the development and commercialization of our then preclinical product candidate, PLN-1474 and up to three integrin research targets. PLN-1474 is an internally discovered small molecule selective inhibitor of integrin avß1, currently being developed for the treatment of liver fibrosis associated with nonalcoholic steatohepatitis ("NASH"). In December 2019, we received an upfront license payment of $50.0 million for the worldwide exclusive license to PLN-1474. Pursuant to the Novartis Agreement, we expect to receive research and development funding totaling $19.6 million for PLN-1474 and are eligible to receive up to $13.4 million for the research targets. Additionally, we are eligible to receive developmental, regulatory and commercial milestone payments of up to $416.0 million if defined development, regulatory and commercialization milestones are achieved and tiered royalties, on a product-by-product basis based on annual nets sales of products, at percentages ranging from high-single digits to low-double digits of the applicable licensed products and mid-single digits to high-single digits for the applicable research products.

On December 19, 2019, we issued 26.4 million shares of Series C redeemable convertible preferred stock, or the Series C Funding, for aggregate cash proceeds of $48.2 million. Novartis purchased 10.9 million shares of the December 19, 2019 Series C redeemable convertible preferred stock offering at $1.83 per share, which as at fair value as the Company sold Series C redeemable convertible preferred stock investor which is at arms-length transaction as $1.83 per share was the purchase price paid for shares by other unrelated investors who participated in the funding round. In February 2020, we issued an additional 28,527,313 shares of Series C redeemable convertible preferred stock for aggregate cash proceeds of $52.2 million.

Since our inception in 2015, our operations have included organizing and hiring personnel for our company, business planning, raising capital, establishing our intellectual property portfolio and performing research and development of TGF-ß signaling and integrin biology, medicinal chemistry, translational screening technologies, and clinical insights to create tissue-specific inhibitors of fibrotic diseases.

We have incurred net losses since inception and expect to incur losses in the future as we continue our research and development activities. To date, we have funded our operations primarily through private placements of our redeemable convertible preferred stock and from revenue generated from the Novartis Agreement.

To date, our revenue has solely been generated from the Novartis Agreement. We expect revenues will continue to fluctuate from period to period and there can be no assurance that new collaborations will continue beyond their initial terms or that we will be able to meet the milestones specified in these agreements.

Since our inception, we have incurred significant operating losses. Our net loss was $30.3 million and $0.6 million for the years ended December 31, 2018 and December 31, 2019, respectively. As of December 31, 2018 and December 31, 2019, we had an accumulated deficit of $71.5 million and $76.3 million, respectively. We expect to continue to incur significant expenses and operating losses for the foreseeable future. In addition, we anticipate that our expenses will increase significantly in connection with our ongoing activities, as we:

- advance the development of our lead product candidate, PLN-74809, through clinical development, and, if successful, later-stage clinical trials;
- advance our other preclinical development programs, into clinical development;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- increase the amount of research and development activities to identify and develop product candidates;
- hire additional clinical, quality control and scientific personnel;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical development, manufacturing and commercialization efforts and our operations as a public company;
- maintain, expand and protect our intellectual property portfolio;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly with third parties; and
- invest in or in-license other technologies or product candidates.

We will not generate revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for PLN-74809 or any of our other product candidates. In addition, if we obtain regulatory approval for PLN-74809 or any of our other product candidates and do not enter into one or more collaborations with third-parties for commercialization, we expect to incur significant expenses related to developing our commercialization capability to support product sales, marketing and distribution activities.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity offerings and debt financings, government funding arrangements, collaborations, strategic alliances and marketing, distribution or licensing arrangements. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back or discontinue the development and commercialization of one or more of our product candidates.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or magnitude of expenses. Even if we can generate product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of December 31, 2019, we had cash, cash equivalents and short-term investments of $102.8 million. We expect to continue to incur losses for the foreseeable future and will require additional financial resources to continue to advance our products and intellectual property. We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements through . As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or drug candidates, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves

COVID-19 Pandemic

In March 2020, the World Health Organization declared the outbreak of a novel coronavirus, or COVID-19, as a pandemic, which continues to spread throughout the United States and worldwide. We could be materially and adversely affected by the risks, or the public perception of the risks, related to an epidemic, pandemic, outbreak, or other public health crisis, such as the recent outbreak of COVID-19. The ultimate extent of the impact of any epidemic, pandemic, outbreak, or other public health crisis on our business, financial condition and results of operations will depend on future developments, which are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of such epidemic, pandemic, outbreak, or other public health crisis and actions taken to contain or prevent the further spread, among others. Accordingly, we cannot predict the extent to which our business, financial condition and results of operations will be affected. We remain focused on maintaining a strong balance sheet, liquidity and financial flexibility and continue to monitor developments as we deal with the disruptions and uncertainties from a business and financial perspective relating to COVID-19.

Financial Operations Overview

Revenue—Related Party

In October 2019, we entered into the Novartis Agreement with Novartis for the development and commercialization of our then preclinical product candidate, PLN-1474 and up to three additional integrin research targets. Under the terms of the Novartis Agreement, in December 2019, Novartis paid Pliant an upfront license fee payment of $50.0 million for the worldwide exclusive license to PLN-1474. Novartis will fund our research and development activities for PLN-1474 through Phase 1 after which Novartis will assume responsibility for all future development, manufacturing and commercialization cost of PLN-1474. Novartis will also fund the research and development activities associated with the integrin research targets as outlined in the Novartis Agreement. We are scheduled to receive up to $19.6 million in funding for PLN -1474 development services through Phase 1, and are scheduled to receive up to $13.4 million in funding for optional target validation and research services associated with the integrin research targets. The research and development funding payments are scheduled to paid periodically throughout 2020, 2021 and 2022. We are eligible for milestone payments of up to $416.0 million if defined developmental, regulatory and commercialization milestones are achieved, and tiered royalties on a product-by-product basis based on annual nets sales of

products, at percentages ranging from high-single digits to low-double digits of the applicable licensed products and mid-single digits to high-single digits for the applicable research products. Novartis became a related party to us following its purchase of 10.9 million shares of our Series C redeemable convertible preferred stock on December 19, 2019, representing aggregate holdings of 7.4% of our outstanding shares on a fully diluted basis as of December 31, 2019. See Notes 6, 9 and 14 to our financial statements included elsewhere in the prospectus for more information.

Operating Expenses

Research and Development

Our research and development expenses consist of expenses incurred in connection with the development of our product candidates. Research and development expenses include:

- employee-related expenses, which include salaries, benefits and stock-based compensation for our research and development personnel;
- expenses incurred under agreements with third-party contract organizations for pre-clinical studies, investigative clinical trial sites and consultants that conduct research and development activities on our behalf;
- costs associated with clinical trials;
- depreciation of laboratory equipment and costs of equipment and supplies;
- costs associated with technology and intellectual property licenses; and
- facilities and other allocated expenses, which include expenses for rent and other facility related costs and other supplies.

The following table summarizes our research and development expenses for the years ended December 31, 2018 and 2019:

	Years Ended December 31,	
	2018	2019
	(in thousands)	
Employee related expenses	$ 6,171	$ 10,385
Outside and consulting services for preclinical studies and research and development activities by third party contract organizations	9,849	22,043
Clinical trials expenses	482	6,667
Depreciation of lab equipment and costs of equipment and supplies	5,084	4,829
Technology and intellectual property licenses	229	288
Facilities and other allocated expenses	2,600	3,141
Total research and development expenses	$ 24,415	$ 47,353

We expense all research and development costs in the periods in which they are incurred. We do not allocate our costs by product candidates or by preclinical programs as these are in early stages of clinical trials or development, and our internal expenses are not allocated between product candidates and programs. Although external third-party costs are allocable between product candidates and programs, we do not perform this allocation.

During 2018, we were eligible for a research and development tax credit. The tax incentive was available to us based on research and development activity within the United States and California during those years. These research and development tax incentives are recognized as a contra to FICA payroll tax expense when the right to receive has been attained and funds are collectible and is capped at $250,000 per year. In 2019, we longer qualified for the research and development tax credit as we generated revenue in the fourth quarter of 2019. For additional information, see Note 2 to our audited financial statements included elsewhere in this prospectus.

We expect our research and development expenses to increase substantially for the foreseeable future as we continue to invest in research and development activities related to developing our product candidates and our preclinical programs and as they advance into later stages of development. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time-consuming, and the successful development of our product candidates is highly uncertain. As a result, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates.

General and Administrative

Our general and administrative expenses consist primarily of personnel costs, allocated facilities costs and other expenses for outside professional services, including legal, marketing, investor relations, human resource and accounting services. Personnel costs consist of salaries, benefits and stock-based compensation for our general and administrative personnel. We expect to incur additional expenses as a result of operating as a public company, including expenses related to compliance with the rules and regulations of the SEC, The Nasdaq Global Market, additional insurance expenses, investor relations activities and other administrative and professional services. We also expect to increase the size of our administrative function to support the growth of our business. In addition, if we obtain regulatory approval for any of our product candidates and do not enter into a third-party commercialization collaboration, we expect to incur significant expenses related to building a sales and marketing team to support product sales, marketing and distribution activities.

Interest Income

Our interest income consists of interest income earned on cash and money market funds.

Results of Operations

As described above in "—COVID 19 Pandemic", the ultimate extent of the impact of any epidemic, pandemic, outbreak or other public health crisis on our results of operations will depend on future developments, which are highly uncertain, including new information that may emerge concerning the severity of the current COVID-19 pandemic or other public health crisis and actions taken to contain or prevent the further spread, among others. Accordingly, we cannot fully predict the extent to which our business and results of operations will be affected; however we expect the COVID-19 pandemic to impact our operations in several ways. Many clinical trial sites have been impacted by the pandemic, forcing them to delay enrollment in research trials, including ours. This will likely impact the speed of enrollment in our current trials, and will likely delay data readouts by two to three quarters. Additionally, the pandemic has limited our ability to perform basic science R&D in our facilities due to government shelter-in-place orders, ultimately slowing, but not stopping, progress of several early stage projects.

Comparison of the Years Ended December 31, 2018 and 2019

(In thousands, except percentages)	Years Ended December 31, 2018	2019	$ Change	% Change
Revenue—related party	$ —	57,052	$ 57,052	NM
Operating expenses:				
Research and development	(24,415)	(47,353)	(22,938)	94.0%
General and administrative	(6,500)	(10,930)	(4,430)	68.2%
Total operating expenses	(30,915)	(58,283)	(27,368)	88.5%
Loss from operations	(30,915)	(1,231)	29,684	(96.0)%
Interest income	688	816	128	18.6%
Other expense, net	(49)	(216)	(167)	NM
Net loss	$ (30,276)	$ (631)	$ 29,645	(97.9)%

NM: Results not meaningful

Revenue - Related Party

Revenue-related party consists primarily of revenue generated from the Novartis Agreement. The increase of $57.1 million in revenue-related party for the year ended December 31, 2019 compared to year ended December 31, 2018 was due to the recognition of $50.0 million in upfront license fee revenue and $7.1 million in research and development services revenue. We anticipate revenue over the next several years will be derived primarily from the Novartis Agreement as we continue to recognize revenue-related party from research and development services and potential milestone payments to revenues in future periods.

Research and Development Expenses

Research and development expenses increased by $22.9 million, or 94.0%, for the year ended December 31, 2019, compared to the year ended December 31, 2018. The increase was primarily due to $18.1 million of increased consulting and outside services costs, $3.7 million of increased compensation costs, $0.5 million of increased rent expense, $0.5 million in increased stock-based compensation costs, $0.4 million of increased depreciation expense, $0.3 million of increased sponsored research expenses and $0.2 million of increased miscellaneous and other expenses partially offset by a decrease in equipment and supplies expense of $0.8 million. Consulting and outside services costs increased due to increased PLN-74809 and PLN-1474 development activities. Compensation costs and stock-based compensation costs increased as a result of headcount increases. Rent expense increased due to the move to new office space in South San Francisco in mid-2018. Depreciation expense increased due to increased leasehold improvements installed at the South San Francisco office. Sponsored research expenses increased due to increased research sponsorship activities with universities in 2019. The reduction in equipment and supplies expense was due to a decrease in purchases of laboratory equipment during the year ended December 31, 2019 when compared to in the year ended December 31, 2018.

General and Administrative Expenses

General and administrative expenses increased by $4.4 million, or 68.2%, for the year ended December 31, 2019, compared to the year ended December 31, 2018. The increase was primarily due to $1.9 million of increased compensation costs, $1.1 million of increased stock-based compensation costs, $0.8 million of increased professional and consulting costs, $0.2 million of increased miscellaneous and other expenses, $0.2 million of increased rent expense, $0.2 million in increased travel expense and $0.1 million of increased equipment and supplies expense. Compensation costs and stock-based compensation costs increased as a result of increased headcount. Professional and consulting costs increased primarily as a result of increased legal, marketing, investor relations and accounting fees. Travel expenses increased primarily due to increased executive travel associated with equity financing initiatives. Equipment and supplies expense increased primarily due to increased purchases of office supplies.

Interest Income

Interest income increased by $0.1 million for the year ended December 31, 2019, compared to the year ended December 31, 2018. The increase was attributable to interest income earned on higher cash and cash equivalents balances resulting from preferred stock issuances in the second half of 2019.

Liquidity and Capital Resources

Overview

As of December 31, 2019, we had cash and cash equivalents and short-term investments of $102.8 million.

As a result of the COVID-19 pandemic, our clinical trials with universities were temporarily delayed and our ability to identify and enroll patients in future clinical trials may become more difficult and costly. Our liquidity and financial condition evaluation includes an estimate of the financial impact of the delay in clinical trials and increased patient enrollment costs.

Based on our current cash balance and our ability to control discretionary spending, such as research and development expenditures with outside service providers, we have evaluated and concluded our financial condition is sufficient to fund our planned operations, commitments and contractual obligations for a period of at least one year following the date that these financial statements are issued. Further, our cash position is expected to improve in 2020, as we raised an additional $52.2 million from the issuance of an additional 28.5 million shares of our Series C redeemable convertible preferred stock in February of 2020, and have achieved the first patient dosing milestone of the Novartis Agreement triggering the receipt of a $25.0 million payment expected from Novartis in the second quarter of 2020.

Funding Requirements

Our primary use of cash is to fund operating expenses, primarily research and development expenditures. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our outstanding accounts payable, accrued expenses and prepaid expenses.

Our future funding requirements will depend on many factors, including the following:

- the initiation, progress, timing, costs and results of preclinical studies and clinical trials for our product candidates;
- the clinical development plans we establish for these product candidates;
- the number and characteristics of product candidates that we develop;
- the outcome, timing and cost of meeting regulatory requirements established by the U.S. Food and Drug Administration, or FDA, and other comparable foreign regulatory authorities;
- whether we enter into any collaboration agreements and the terms of any such agreements;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of defending intellectual property disputes, including patent infringement actions brought by third parties against us or our product candidates;
- the effect of competing technological and market developments;
- the cost and timing of completion of commercial-scale outsourced manufacturing activities; and
- the cost of establishing sales, marketing and distribution capabilities for any product candidates for which we may receive regulatory approval in regions where we choose to commercialize our products on our own.

Further, our operating plan may change, and we may need additional funds to meet operational needs and capital requirements for clinical trials and other research and development expenditures.

If we need to raise additional capital to fund our operations, funding may not be available to us on acceptable terms, or at all. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our preclinical studies, clinical trials, research and development programs or commercialization efforts. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, debt financings, collaborations and other licensing arrangements. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us.

Cash Flows

Comparison of the Years Ended December 31, 2018 and 2019

The following summarizes our cash flows for the periods indicated (in thousands):

	Years Ended December 31,	
	2018	2019
Cash used in operating activities	$(28,328)	$ (2,750)
Cash used in investing activities	(2,323)	(17,931)
Cash provided by financing activities	87,349	45,539
Net increase in cash and cash equivalents	$ 56,698	$ 24,858

Cash Used in Operating Activities

Net cash used in operating activities was $2.8 million for the year ended December 31, 2019 and $28.3 million for the year ended December 31, 2018.

Cash used in operating activities in the year ended December 31, 2019 was primarily due to our net loss for the period of $0.6 million adjusted by non-cash charges of $2.9 million and net change of $5.1 million in our net operating assets and liabilities. The non-cash charges consisted of $1.1 million of depreciation expense and $1.8 million of stock-based compensation expense. The changes in our net operating assets and liabilities were primarily due to a decrease of $7.1 million in accounts receivable, a decrease of $1.5 million in prepaid expense and other current assets, a decrease of $1.3 million in accounts payable, partially offset by an increase of $4.3 million in accrued expenses, an increase of $0.2 million in other non-current assets and an increase of $0.2 million in deferred rent and other long-term liabilities and tax credits receivable.

Cash used in operating activities in the year ended December 31, 2018, was primarily due to our net loss for the year of $30.3 million adjusted by non-cash charges of $0.9 million and a net change of $1.1 million in our net operating assets and liabilities. The non-cash charges consisted of $0.7 million of depreciation expense and $0.2 million of stock-based compensation expense. The changes in our net operating assets and liabilities were primarily due to an increase of $1.5 million in accounts payable and accrued expenses and $0.4 million increase in deferred rent and other long-term liabilities, partially offset by a decrease of $0.8 million in other non-current assets, prepayments and tax credit receivable.

Cash Used in Investing Activities

During the years ended December 31, 2019 and 2018, cash used in investing activities was $17.9 million and $2.3 million, respectively. Cash used in investing activities for the year ended December 31, 2019 was primarily due to the purchase of short-term investments of $51.7 million, purchases of property, plant and equipment of $1.0 million and $0.3 million of accretion of short-term investments, partially offset by $35.0 million in maturities of short term investments . Cash used in investing activities for the year ended December 31, 2018 was primarily resulting from the purchase of laboratory equipment and leasehold improvements.

Cash Provided by Financing Activities

During the year ended December 31, 2019, cash provided by financing activities was $45.5 million. Cash provided by financing activities for the year ended December 31, 2019 was primarily due to net proceeds from the issuance of our Series C redeemable convertible preferred stock financing of $47.9 million and proceeds from the exercise of stock options of $0.2 million, partially offset by the payment of deferred offering costs of $2.6 million.

During the year ended December 31, 2018, cash provided by financing activities was $87.3 million of net proceeds from the issuance of shares of Series A and Series B redeemable convertible preferred stock.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations and other commitments as of December 31, 2019 (in thousands):

	Payments Due by Period				
	Less than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years	Total
Operating lease	$ 1,959	$4,125	$4,418	$ 1,143	$11,645
Total obligations	$ 1,959	$4,125	$4,418	$ 1,143	$11,645

We enter into contracts in the normal course of business with third-party contract organizations for clinical trials, non-clinical studies and testing, manufacturing and other services and products. These contracts generally provide for termination following a certain period after notice and therefore we believe that our cancelable obligations under these agreements are not material and they are not included in the table above.

We have not included milestone or royalty payments or other contractual payment obligations in the table above if the timing and amount of such obligations are unknown or uncertain.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any off-balance sheet arrangements or holdings in any variable interest entities.

Quantitative and Qualitative Disclosures about Market Risk

The primary objectives of our investment activities are to ensure liquidity and to preserve capital. We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities. We had cash, cash equivalents and short-term investments of $102.8 million as of December 31, 2019 which consisted of bank deposits and highly liquid money market funds. Historical fluctuations in interest rates have not been significant for us. We had no outstanding debt as of December 31, 2019. Due to the short-term maturities of our cash equivalents, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our cash equivalents. To minimize the risk in the future, we intend to maintain our portfolio of cash equivalents in institutional market funds that are composed of U.S. Treasury and U.S. Treasury-backed repurchase agreements or short-term U.S. Treasury securities. We do not believe that inflation, interest rate changes, or exchange rate fluctuations had a significant impact on our results of operations for any periods presented herein.

Critical Accounting Polices and Estimates

Our management’s discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with United States generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 to our financial statements appearing elsewhere in this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

As of December 31, 2019, all of our revenue to date has been generated from the Novartis Agreement. Effective January 1, 2018, we adopted the provisions of ASC Topic 606, Revenue from Contracts with Customers ("Topic 606") using the full retrospective transition method. We did not have any prior collaboration agreements and did not recognize revenue during the year ended December 31, 2018.

Under Topic 606, we recognize revenue when our customer obtains control of promised goods or services, in an amount that reflects the consideration which we expect to receive in exchange for those goods or services. To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of Topic 606, we perform the following five steps: (i) identification of the contract(s) with the customer, (ii) identification of the promised goods or services in the contract and determination of whether the promised goods or services are performance obligations, (iii) measurement of the transaction price, (iv) allocation of the transaction price to the performance obligations, and (v) recognition of revenue when (or as) we satisfy each performance obligation. We only apply the five-step model to contracts when it is probable that we will collect the consideration we are entitled to in exchange for the goods or services we transfer to our customer.

Identification of the Contracts with the Customers

We evaluate every contract to determine whether it in its entirety or in part represent a contract with a customer, or a collaboration agreement and, based on this determination, apply appropriate accounting guidance.

We account for a contract with a customer that is within the scope of Topic 606 when all of the following criteria are met: (i) the arrangement has been approved by the parties and the parties are committed to perform their respective obligations, (ii) each party's rights regarding the goods or services to be transferred can be identified, (iii) the payment terms for the goods or services to be transferred can be identified, (iv) the arrangement has commercial substance and (v) collection of substantially all of the consideration to which we will be entitled in exchange for the goods or services that will be transferred to the customer is probable.

Identification of the Performance Obligations

The promised goods or services in our collaboration and option arrangements consist of research and development services. The arrangements also have options for additional items (i.e., license rights). Options are considered to be marketing offers and are to be accounted for as separate contracts when the customer elects such options, unless we determine the option provides a material right which would not be provided without entering into the contract. The determination as to whether such options are material rights requires significant management judgment, and management considers factors such as other similar arrangements, market data and the terms of the contractual arrangement to make such conclusion. Performance obligations are promised goods or services in a contract to transfer a distinct good or service to the customer. Promised goods or services are considered distinct when: (i) the customer can benefit from the good or service on its own or together with other readily available resources and (ii) the promised good or service is separately identifiable from other promises in the contract. In assessing whether promised goods or services are distinct, we consider factors such as the stage of development of the underlying intellectual property, the capabilities of our customer to develop the intellectual property on their own and whether the required expertise is readily available.

Determination of the Transaction Price

We estimate the transaction price based on the amount of consideration we expect to receive for transferring the promised goods or services in the contract. The consideration may include both fixed consideration and

variable consideration. At the inception of each arrangement that includes variable consideration, we evaluate the amount of the potential payments and the likelihood that the payments will be received. We utilize either the most likely amount method or expected value method to estimate the transaction price based on which method better predicts the amount of consideration expected to be received. If it is probable that a significant revenue reversal would not occur, the variable consideration is included in the transaction price.

All contingent future payments, which include research, development, regulatory, and sales-based royalty payments, have not been considered in the initial analysis, as they are contingent upon option(s) being exercised or are subject to significant risk of achievement.

Allocation of Transaction Price

We allocate the transaction price based on the estimated standalone selling price. We must develop assumptions that require judgment to determine the standalone selling price for each performance obligation identified in the contract. We utilize key assumptions to determine the standalone selling price, which may include other comparable transactions, pricing considered in negotiating the transaction, and the estimated costs. Certain variable consideration is allocated specifically to one or more performance obligations in a contract when the terms of the variable consideration relate to the satisfaction of the performance obligation and the resulting amounts allocated to each performance obligation are consistent with the amounts we would expect to receive for satisfying each performance obligation.

Recognition of Revenue

We considered the license to PLN-1474 as functional intellectual property, as when control of the license was transferred to Novartis at the inception of the Novartis Agreement, Novartis had the right to access its technology and it was functional. The license was distinct from the research and development services as the services are not transformative in nature. As such, under Topic 606, the Company determined the $50.0 million was standalone selling price PLN-1474 license and was recorded to revenue at the inception of the Novartis Agreement.

We recognize revenue as we perform the research and development services based on an input method, as such costs have direct relationship between our effort and the progress made towards satisfying its performance obligations to Novartis. For Consideration allocated to material rights is recognized upon exercise or expiration of the related option.

Accrued Research and Development Costs

We record accrued expenses for estimated costs of our research and development activities conducted by third-party service providers, which include the conduct of clinical studies and preclinical studies. We record the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced and include these costs in accrued liabilities in the balance sheets and within research and development expense in the statement of operations. These costs are a significant component of our research and development expenses. We record accrued expenses for these costs based on factors such as estimates of the work completed and in accordance with agreements established with these third-party service providers. Any payments made in advance of services provided are recorded as prepaid assets, which are expensed as the contracted services are performed.

We estimate the amount of work completed through discussions with internal personnel and external service providers as to the progress or stage of completion of the services and the agreed-upon fee to be paid for such services. We make significant judgments and estimates in determining the accrued balance in each reporting period. As actual costs become known, we adjust our accrued estimates. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services

performed, the number of patients enrolled and the rate of patient enrollment may vary from our estimates and could result in us reporting amounts that are too high or too low in any particular period. Our accrued expenses are dependent, in part, upon the receipt of timely and accurate reporting from clinical research organizations and other third-party service providers. For the periods presented, we have experienced no material differences between our accrued expenses and actual expenses.

Stock-Based Compensation

We recognize compensation costs related to stock awards and stock options granted to employees, nonemployees and directors based on the estimated fair value of the awards on the date of grant. We estimate the grant date fair value and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of the stock-based awards is recognized on a straight-line basis over the requisite service periods, which are generally the vesting period of the respective awards. Forfeitures are accounted for as they occur.

The Black-Scholes option-pricing model requires the use of subjective assumptions which determine the fair value of stock-based awards, including the expected term and the price volatility of the underlying stock. These assumptions include:

- *Fair value of common stock*—See "Determination of the Fair Value of Our Common Stock" below.
- *Expected term*—The expected term represents the period that the stock-based awards are expected to be outstanding. The expected term for our stock options was calculated based on the weighted-average vesting term of the awards and the contract period, or simplified method, as allowed by the SEC.
- *Expected volatility*—Since we are not yet a public company and do not have any trading history for our common stock, the expected volatility was estimated based on the average historical volatilities of common stock of comparable publicly traded entities over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their size, stage in the life cycle or area of specialty. We will continue to apply this process until enough historical information regarding the volatility of our own stock price becomes available.
- *Risk-free interest rate*—The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant for zero-coupon U.S. Treasury notes with maturities approximately equal to the expected term of the awards.
- *Expected dividend*—We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we used an expected dividend yield of zero.

Determination of the Fair Value of Our Common Stock

As there has been no public market for our common stock to date, the estimated fair value of our common stock has been determined by our board of directors as of the date of each option grant, with input from management, considering our most recently available third-party valuations of common stock and our board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*.

For stock awards and options granted in 2018 and 2019, we considered the use of the Income and Market approaches. Under the income approach, the cash generating ability of the company is valued. This approach focuses on determining a forecast benefit stream that is reflective of the subject company's most likely future performance. The forecast benefit stream is then discounted to present value based on the appropriate risk-adjusted discount rate or capitalization rate.

Under the Market approach, we referenced actual transactions involving our company or similar assets and/or enterprises. The Market approach generally consists of two primary methodologies: The Guideline Comparables Method, or GCM and the Guideline Transaction Method, or GTM. The GCM involves identifying and selecting publicly traded companies or guideline public companies, or Guideline Public Companies, with financial and operating characteristics like the subject being valued, and subsequently deriving multiples and other metrics from such Guideline Public Companies to apply to the subject being valued.

Taking the stage of our development into consideration and expected liquidity events into account, we elected not to rely upon a pure application of the Income or Market valuation approaches. We determined that the PWERM was more appropriate to value our equity classes as the approach is based upon an analysis of future values for the entire enterprise assuming various future outcomes. We did consider elements of the Income and Market approaches for gauging the appropriateness of certain PWERM inputs and assumptions.

In addition to considering the results of these third-party valuations, our board of directors considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, which may be as a date later than the most recent third-party valuation date, including:

- the prices at which we sold shares of preferred stock and the superior rights and preferences of the preferred stock relative to our common stock at the time of each grant;
- the progress of our research and development programs, including the status of pre-clinical and planned clinical trials for our product candidates;
- our stage of development and commercialization and our business strategy;
- external market conditions affecting the biotechnology industry, and trends within the biotechnology industry;
- our financial position, including cash on hand, and our historical and forecasted performance and operating results;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering, or IPO, or a sale of our company considering prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in the biopharmaceutical industry.

For financial reporting purposes, we considered the amount of time between the valuation date and the grant date of our stock awards and options to determine whether to use the latest common stock valuation or an interpolated fair value between the two valuation dates. This determination included an evaluation of whether the subsequent valuation indicated that any significant change in valuation had occurred between the previous valuation and the grant date.

The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our stock-based compensation expense could be materially different. Following the closing of this offering, the fair value of our common stock will be determined based on the quoted market price of our common stock.

As of December 31, 2018, we had $0.7 million and $0.4 million of unrecognized stock-based compensation expense that is expected to be recognized over the weighted-average periods of 2.2 years and 3.7 years related to restricted stock awards and stock options, respectively.

As of December 31, 2019, there was $0.4 million of unrecognized compensation costs that is expected to be recognized over the weighted-average periods of 2.2 years related to restricted stock awards. As of December 31,

2019, there was $4.5 million of unrecognized compensation costs that is expected to be recognized over the weighted-average periods of 3.0 years related to stock options. Based upon the assumed initial public offering price of $, the midpoint of the price range set forth on the cover page of this prospectus, the aggregate intrinsic value of options outstanding as of December 31, 2019 was $ million, $ million of which related to unvested options and $ million of which related to unvested restricted stock awards.

Recent Accounting Pronouncements

See Note 2 to our financial statements appearing elsewhere in this prospectus for more information.

Emerging Growth Company Status and JOBS Act Accounting Election

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to avail ourselves of this exemption and adopt ASU No. 2016-02 *(Topic 842*), Leases when the standard is effective for private companies which is for fiscal years beginning after December 15, 2020. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

In addition, we intend to rely on the other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, if as an "emerging growth company" we intend to rely on such exemptions, we are not required to, among other things, (i) provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, (ii) provide all of the compensation disclosure that may be required of non-emerging growth public companies under the Dodd-Frank Wall Street Reform and Consumer Protection Act, (iii) comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (auditor discussion and analysis) and (iv) disclose certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the Chief Executive Officer's compensation to median employee compensation. These exemptions will apply for a period of five years following the completion of this offering or until we no longer meet the requirements of being an emerging growth company, whichever is earlier.

Business

Overview

We are a clinical stage biopharmaceutical company focused on discovering and developing novel therapies for the treatment of fibrosis. Our initial focus is on treating fibrosis by inhibiting integrin-mediated activation of TGF-ß. We have applied our deep understanding of fibrosis biology, along with our medicinal chemistry and translational medicine expertise to develop a set of proprietary tools designed to discover and de-risk product candidates quickly and efficiently. Our wholly-owned lead product candidate, PLN-74809, is an oral small-molecule dual selective inhibitor of avß6 and avß1 integrins that we are developing for the treatment of idiopathic pulmonary fibrosis, or IPF, and primary sclerosing cholangitis, or PSC. We have completed a Phase 1a SAD/MAD trial and a Phase 1b proof-of-mechanism trial of PLN-74809 in IPF and are currently enrolling two Phase 2a trials in IPF. We also plan to submit an IND for PLN-74809 for the treatment of PSC in the first half of 2020, and plan to initiate a Phase 2a PSC trial as soon as possible thereafter. Our second product candidate, PLN-1474, is a small-molecule selective inhibitor of avß1 for the treatment of stage liver fibrosis associated with NASH, which we have partnered with Novartis. PLN-1474 is currently undergoing a Phase 1 trial testing with top-line data expected in the second half of 2020. In addition to our clinical programs, we currently have preclinical integrin-based programs in lead-optimization stage targeting oncology and muscular dystrophies.

Fibrosis refers to the abnormal thickening and scarring of connective tissue due to the production and deposition of excess collagen in the extra-cellular matrix. Fibrosis can occur in many different tissues including lung, liver, kidney, muscle, skin and the gastrointestinal tract, and often causes severe and debilitating disease potentially leading to organ failure and death. Fibrosis has historically proven difficult to treat, which we believe is due to the complexity of the disease biology and the challenge of targeting fibrotic tissues selectively without affecting healthy tissues.

We believe that tissue-specific inhibition of TGF-ß may hold the key to successfully treating fibrosis. In normal tissues TGF-ß is activated in response to tissue injury which initiates a cascade that results in collagen production and, ultimately, scar formation to heal the tissue. In fibrosis, however, TGF-ß signaling becomes dysregulated, with TGF-ß being continuously activated, leading to excess collagen deposition, even in the absence of acute tissue injury. TGF-ß, while implicated in fibrosis pathophysiology, is expressed and intermittently activated across all tissue types and plays important, context-specific roles in tissue homeostasis. Therefore, TGF-ß cannot be blocked systemically without disrupting these homeostatic functions and causing significant toxicities. To more precisely treat fibrosis in specific tissues, we believe it is crucial to discover and treat the underlying mechanism causing excess TGF-ß activation.

Our scientific founders are pioneers in elucidating the role of specific extracellular receptors known as integrins as a key element in the activation of TGF-ß. While the role of integrins in TGF-ß activation has been well-characterized over the past 10 years, integrins have historically been difficult to target therapeutically using small-molecules due to the difficulty of engineering molecules with high receptor selectivity and bioavailability. We believe that we have addressed these challenges with our platform. We have built a library of compounds that includes bioavailable, selective and potent inhibitors of multiple integrins that may be used to target a range of fibrotic diseases across different tissues.

Our Pipeline

(1) We plan to submit an IND for PLN-74809 for the treatment of PSC in the first half of 2020 incorporating the data from the completed Phase 1a/1b healthy volunteer trials and plan to initiate a Phase 2a clinical trial for PSC thereafter.

Our lead wholly-owned product candidate, PLN-74809, is an oral small-molecule, dual-selective inhibitor of avß6 and avß1 that we are advancing in IPF and PSC. While expressed at very low levels in normal tissues, avß6 and avß1 are upregulated in the pulmonary tissues of IPF patients, and in the liver tissues of PSC patients. They both serve as activators of TGF-ß, leading to increased collagen production and fibrosis in these tissues. By blocking TGF-ß activation by both avß6 and avß1, we believe PLN-74809 may slow and potentially halt the progression of fibrosis in these patient populations. PLN-74809 has been granted orphan drug designation by the U.S. Food and Drug Administration, or FDA, for both IPF and PSC.

IPF is the most common and severe form of progressive pulmonary fibrosis, affecting approximately 140,000 patients in the United States. While the underlying cause of IPF is unknown, the course of the disease is well documented, with progressive scarring that destroys the structure and function of the lungs over time. The average life expectancy for patients with confirmed IPF is between three and five years. There are currently two FDA-approved therapies for IPF. Both have shown modest slowing of disease progression. However, both therapies have raised significant safety and tolerability concerns.

PSC is a progressive liver disorder affecting approximately 30,000 to 45,000 patients in the United States. The disease is characterized by fibrosis originating in the bile ducts that ultimately results in bile flow obstruction, or cholestasis, causing liver damage and progressive fibrosis of the liver. Patients have a median survival of 10 to 12 years without intervention and carry high lifetime risk of developing gastrointestinal malignancies. There are currently no FDA-approved therapies for PSC.

In our live human tissue assay, PLN-74809 showed a greater than 50 percent decrease in the expression of pro-fibrotic genes, such as collagen type I alpha1 chain, or *COL1A1*, and collagen type 3 alpha1 chain, or *COL3A1*, that are responsible for collagen production in human IPF and PSC tissues. Additionally, we have completed a study in non-human primates in which we showed that inhibition of avß6 and avß1 reduced TGF-ß activation by greater than 75% in cells isolated from the lungs after seven days of treatment.

We have completed a Phase 1a single ascending dose, or SAD, multiple ascending dose, or MAD, and food effect clinical trial in which PLN-74809 was shown to be orally bioavailable and generally well tolerated with a half-life that may support once-daily dosing.

We have also completed a Phase 1b proof-of-mechanism trial in healthy volunteers evaluating PLN-74809's ability to inhibit TGF-ß activation as measured through pSMAD2/3 activation levels. pSMADs act as signaling molecules directly downstream from the TGF-ß receptor, and therefore pSMAD2/3 activation is used as a reliable biomarker for TGF-ß activation. In the Phase 1b trial, PLN-74809 was shown to inhibit TGF-ß activation by up to 70% in alveolar macrophages collected from healthy volunteers, in a dose- and exposure-dependent manner. Additionally, PLN-74809 was well tolerated with only mild adverse events and no drug-related adverse events.

We are currently enrolling two Phase 2a trials of PLN-74809 in IPF. In the first of these trials, we plan to enroll IPF patients and utilize a positron emission tomography, or PET, ligand to measure avß6 target engagement by PLN-74809 in the lungs post-treatment. The second trial is a 12-week double blind placebo-controlled trial involving IPF patients across four cohorts consisting of three doses of PLN-74809 and one placebo and will evaluate safety, tolerability and pharmacokinetics, or PK. We also plan to employ exploratory efficacy endpoints including Quantitative Lung Fibrosis imaging analysis, biomarkers and pulmonary function. We plan to submit an IND for PLN-74809 in PSC in the first half of 2020 and initiate a Phase 2a trial as soon as possible thereafter. This trial is expected to be a 12-week double blind placebo-controlled trial involving PSC patients across four cohorts consisting of three doses of PLN-74809 and one placebo and will evaluate safety, tolerability and PK. We also plan to employ exploratory efficacy endpoints including biomarkers and evaluation of liver-stiffness.

Our second clinical stage product candidate, PLN-1474, is a small-molecule, selective inhibitor of TGF-ß activation by the integrin avß1, in development for treatment of stage F3/F4 NASH. avß1 serves as an activator of TGF-ß and its expression has been shown to be upregulated in hepatic stellate cells in stage F3 and F4 NASH-associated liver fibrosis. In October 2019, we entered into a collaboration and license agreement with Novartis in which Novartis licensed global rights to PLN-1474.

NASH is a severe form of non-alcoholic fatty liver disease, or NAFLD, that is associated with the development of liver fibrosis and potentially life-threatening liver dysfunction. NASH is highly prevalent, affecting approximately 16.5 million adults in the United States, including approximately 3.3 million with stage F3/F4 fibrosis. Over time, NASH-related liver fibrosis may progress to cirrhosis, resulting in impaired liver function and increased risk of liver-related complications and mortality. There are currently no FDA approved therapies for NASH, and to date investigational NASH therapies have only shown modest anti-fibrotic benefits in clinical trials.

We have shown through our assays of live human fibrotic liver tissue that PLN-1474 is able to decrease the expression of pro-fibrotic genes such as *COL1A1*, the gene associated with the production of the most abundant type of collagen produced in fibrosis. We have also shown in multiple animal models of NASH that PLN-1474 has a potent anti-fibrotic effect. We are currently conducting a Phase 1 trial of PLN-1474 in healthy volunteers with data expected in the second half of 2020.

Pursuant to our collaboration with Novartis, Novartis will reimburse us for all development activities associated with the PLN-1474 Phase 1 trials, and will be responsible for all development and commercialization activities following Phase 1 trials. We will be eligible to receive up to $416.0 million in various developmental regulatory and commercial milestones as well as tiered royalties, on a product-by-product basis based on annual nets sales of products, at percentages ranging from high-single digits to low-double digits of the applicable licensed products and mid-single digits to high-single digits for the applicable research products. In addition to PLN-1474, during the research term, Novartis will also collaborate with us on up to three separate integrin research programs.

In addition to our clinical programs, we are developing two additional preclinical integrin-based programs. The first of these is our oncology program. As TGF-ß biology has been elucidated, it has become increasingly understood in the scientific literature that TGF-ß plays an important anti-inflammatory role in the tumor micro-

environment, preventing T-cell infiltration and inhibiting release of various cytokines. This mechanism is becoming increasingly recognized as a potential cause of the resistance to checkpoint inhibitors such as anti-PD-1 therapies seen in many tumors. We are targeting the TGF-ß activating integrin avß8, which is upregulated in certain tumors with the goal of sensitizing tumors to checkpoint inhibitors. This program has generated positive data in preclinical tumor models and is currently in the lead-optimization phase of development.

Our second preclinical program is an allosteric agonistic monoclonal antibody against an undisclosed integrin receptor being developed for treatment of muscular dystrophies, including Duchenne Muscular Dystrophy. The target integrin is upregulated on muscle cells across multiple muscular dystrophy indications, acting as a substitute for dystrophin and helping to anchor muscle cells to the extracellular matrix. The program utilizes an allosteric agonistic antibody to activate the target in order to augment the naturally occurring compensatory mechanism. Because the antibody is not mutation specific, it could potentially be effective as a single therapy or in combination with other treatment modalities across multiple muscular dystrophy indications.

Pliant was formed to build upon our scientific founders' pioneering work elucidating the biology of fibrosis and its underlying causes. Our mission is to advance the understanding of fibrosis by building a biology-, chemistry- and screening-based engine to drive drug development across the spectrum of fibrotic diseases. We have established what we believe is a leading capability to both identify relevant fibrosis targets across different tissue types and address those targets with product candidates that have been optimized for potency and selectivity. We have established collaborations with medical research institutions and tissue networks that provide us access to human fibrotic tissue from patients undergoing transplant to use in evaluation of our product candidates and share insights with thought leaders to further engage them in our mission. By refining the development of biology-driven product candidates in our laboratories through testing in freshly obtained human fibrotic tissue, we believe that we may be able to increase the efficiency of our development process and maximize the probability of success.

We have assembled an executive team with highly relevant experience in fibrosis, small-molecule drug discovery and clinical development. Bernard Coulie, M.D., Ph.D., our CEO, has 20 years of experience in drug development, previously serving as CEO and CMO of ActoGeniX, as well as holding senior roles at Johnson & Johnson. Éric Lefebvre, M.D., our Chief Medical Officer, brings deep experience in clinical development in liver disease. He previously served as head of clinical research and development for NASH at Allergan. Prior to Allergan, Dr. Lefebvre led HIV and HCV development at Janssen and later served as CMO at Tobira. We were founded by world-renowned researchers Dean Sheppard, Rik Derynck, Bill DeGrado and Hal Chapman from the University of California, San Francisco, who bring broad experience in fibrosis biology and small-molecule chemistry among other related disciplines.

To date, we have raised over $220 million from investors including Third Rock Ventures, Cowen Healthcare Investments, Eventide Asset Management, Novartis, Redmile Group, Farallon Capital Management, Cormorant Asset Management, Surveyor Capital (a Citadel Company), Logos Capital, Schroder Adveq Management, Menlo Ventures, SCubed Capital and Agent Capital.

Our Strategy

Our goal is to become a world-leading fibrosis company, developing and commercializing disease-modifying therapies across a spectrum of fibrotic diseases. To achieve this, we are focused on the following key strategies:

- **Rapidly advance PLN-74809 in IPF and PSC through clinical development and commercialization**. We are developing our lead oral small-molecule inhibitor of avß6 and avß1 as a novel therapy for both IPF and PSC, each areas of high unmet medical need. Both IPF and PSC are orphan indications that we believe we can commercialize on our own in key geographies using targeted sales forces.

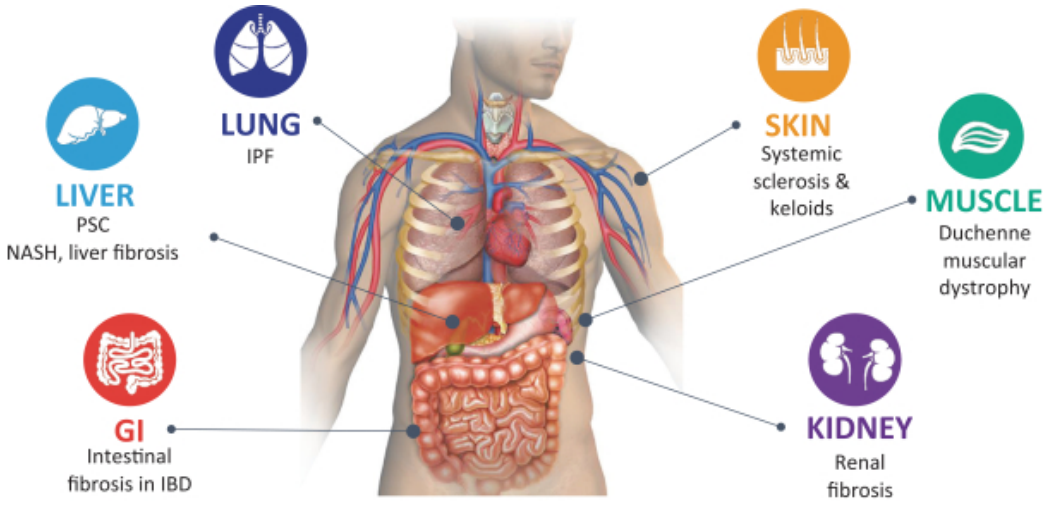
- **Rapidly advance our second product candidate, PLN-1474, through Phase 1 for subsequent trials in NASH** associated liver fibrosis. PLN-1474 is a small-molecule selective inhibitor of avß1 in development for the treatment of stage F3/F4 liver fibrosis associated with NASH, an area of high unmet medical need with no currently FDA-approved treatments. In October 2019, we entered into a license and collaboration agreement with Novartis, or the Novartis Agreement, under which Novartis licensed global rights to PLN-1474. We are currently executing a Phase 1 SAD/MAD trial of PLN-1474. Novartis will reimburse us for all development activities associated with the Phase 1 trials, and will be responsible for all development and commercialization activities following Phase 1.
- **Selectively evaluate additional partnerships in indications and geographies where we believe partners can add significant commercial and/or development capabilities.** Fibrotic diseases represent a broad set of disease indications to pursue. Our focus is to commercialize our assets in orphan fibrosis indications and to selectively work with partners in larger indications and in geographies outside of North America. In October 2019, we entered into a license and collaboration agreement with Novartis, under which Novartis licensed global rights to PLN-1474. Given the size and competitive dynamics of the NASH indication, we believe that our collaboration gives PLN-1474 the best chance for success. Furthermore, we will evaluate and potentially choose to partner our unpartnered product candidates in indications outside of fibrosis.
- **Explore opportunities for our pipeline assets in additional fibrotic indications.** We are evaluating the potential benefit of our product candidates outside of their lead indications. Our product candidates have shown anti-fibrotic activity in multiple animal models as well as human tissue in indications outside of IPF, PSC and NASH. We will continue to evaluate additional indications to maximize the potential of our pipeline.
- **Leverage our industry leading tools and capabilities to advance our mission of becoming a leading fibrosis company.** Since our founding we have endeavored to advance the understanding of fibrosis biology, uncover new targets and advance novel product candidates. Currently, our proprietary capabilities include a target expression atlas, an expansive library of over 7,000 integrin inhibitor molecules, integrin screening assay platform, live fibrotic human tissue program, PET-ligand imaging program, and biomarker assays. We continue to expand our integrin inhibitor library and develop tools such as additional PET-ligands as well as novel disease biomarkers. In addition, we have a library of over 70,000 compounds for non-integrin targets. We intend to leverage these tools and capabilities in a target- and modality-agnostic manner to expand our pipeline with a mission to become a world-leading fibrosis company.

Fibrosis: A Condition of Uncontrolled Scarring

Fibrosis refers to excessive scarring often resulting from aberrant tissue repair processes. In normal tissues, fibrotic pathways represent a repair mechanism by which the tissues heal themselves in response to injury or disease. These pathways are normally deactivated upon completion of tissue repair. However, when they become dysregulated and remain activated, excess collagen deposition can cause tissues to thicken and become stiff, ultimately impairing their physiological function.

Fibrosis is a disease of connective tissue. Normal connective tissue forms a supportive network between cells, lending structure and integrity to tissues built up of many cell types. Connective tissue is composed of collagenous and elastic fibers, as well as a number of supporting cells such as fibroblasts and white blood cells. These supporting cells are embedded in a gel-like matrix made up of proteins known as the extra-cellular matrix. The most important protein in this matrix is collagen, which takes the form of elongated, fine fibers, providing flexible support to the surrounding cells. In fibrotic tissues, initial insults such as tissue damage or inflammation spur the deposition of excess collagen. Normally such responses are balanced in finely controlled feedback loops, but in fibrotic disease these feedback loops are dysregulated, resulting in progressive scarring, thickening, and loss of function.

Fibrosis occurs in many organ systems throughout the body including the lungs, liver, kidneys, gastrointestinal tract, skin and muscles. While the exact pathologies of diseases in these organs vary, the development of fibrosis involves many common cell types and biochemical pathways, including the TGF-ß signaling pathway. The ultimate result is similar across many tissues: secretion and extracellular activation of growth factors that stimulate fibroblasts to secrete excess collagen, leading to runaway growth of scar tissue.



Role of TGF-ß Signaling in Fibrosis

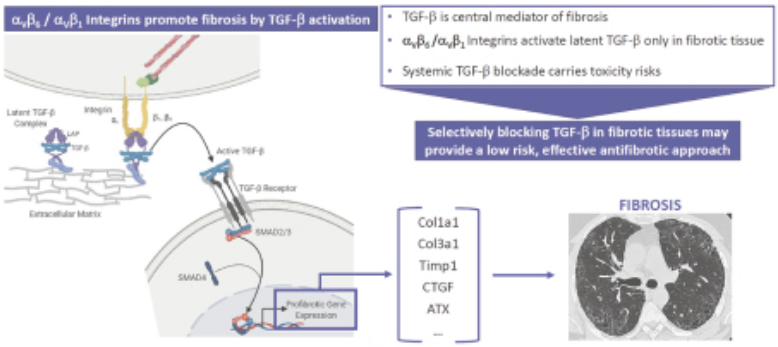
We believe that selectively inhibiting TGF-ß activation holds the key to successfully treating fibrosis across multiple tissues and organs. TGF-ß is secreted by nearly all cells and organs in mammals and stored in large amounts outside of cells, in the extra-cellular matrix, as part of an inactive complex. In healthy tissues, TGF-ß is transiently activated in response to tissue injury which initiates a cascade that results in collagen production and, ultimately, healing of the tissue. In fibrosis, however TGF-ß signaling becomes dysregulated and perpetuated, with TGF-ß being continuously activated, leading to excess collagen deposition in the absence of acute tissue injury. Moreover, induced activation of TGF-ß alone in animal models has been shown to be sufficient to induce fibrosis, and inhibition of TGF-ß activation has been shown to prevent or attenuate fibrosis.

TGF-ß can be activated in multiple ways in response to specific tissue injury. One important class of cell-surface proteins that activate TGF-ß in fibrosis are integrins. Integrins have a variety of functions, including signaling inside the cells, providing tissue structure and stability through adhesion between cells. Integrins are heterodimeric proteins, meaning they are composed of two different protein subunits paired together. These subunits are known as a and ß subunits. In humans, there are eighteen distinct a subunits and eight distinct ß subunits, which combine to form 24 known and functional integrin pairs.

Certain integrins bind the inactive TGF-ß complex. In response to tissue injury, the cells expressing these integrins are induced to contract, exerting physical force on the bound TGF-ß complex. This mechanical force changes the shape of the complex, releasing active TGF-ß. This activation triggers a biological cascade which results in collagen production, and when dysregulated leads to fibrosis. As depicted in the figure below, this cascade involves (i) binding of active TGF-ß to its receptor, the TGF-ß type I receptor kinase also known as ALK5; (ii) phosphorylation of immediate downstream signaling proteins known as SMAD2 and SMAD3; (iii) formation of a transcription initiation complex by pSMAD2, pSMAD3 and SMAD4; and (iv) subsequent transcription of target genes that encode fibrotic proteins such as collagen. Importantly, whereas certain TGF-ß-activating integrins are expressed at very low levels in healthy tissues, the TGF-ß cascade can lead to the

upregulation of the these integrins resulting in a TGF-ß-driven positive feed-forward loop which further increases TGF-ß activation. Furthermore, as fibrosis progresses and the fibrotic organ gets stiffer, it becomes progressively easier for contracting cells to activate integrin-bound TGF-ß. It is because of this continued, tissue-specific upregulation of integrins and their key roles in continued TGF-ß-activation that we believe that integrins provide an avenue to selectively inhibit TGF-ß activation in fibrotic tissue without affecting TGF-ß's important physiological roles in healthy tissues.

a_V Integrins promote fibrosis through activation of TGF-ß



Model of integrin regulation of TGF-ß signaling

Historical Challenges to Drug Development in Fibrosis

Fibrosis has historically been a difficult therapeutic area to target pharmaceutically. The biology and underlying causes of fibrosis are complex and, in many diseases, poorly understood. In the past, many patients with fibrotic disease were treated with anti-inflammatory agents such as steroids. While steroids may have a mild anti-fibrotic effect in some forms of fibrosis, they can exacerbate others, such as IPF. Additionally, the negative effects of chronic steroid exposure make it difficult to treat patients with these agents for long term periods.

More recently, it has become well understood that regardless of the underlying cause, TGF-ß activation is at the heart of several key processes that drive fibrosis, including collagen formation, deposition of extracellular matrix proteins and activation and proliferation of fibroblast cells. As such, much of the historic drug development efforts to treat fibrosis have been aimed at systemically inhibiting or disrupting the TGF-ß signaling pathway by either (i) blocking TGF-ß binding to the TGF-ß receptors with an antibody or (ii) preventing the type I TGF-ß receptor, also known as ALK5, from activating the SMADs using a small-molecule kinase inhibitor. However, because of TGF-ß's role in normal physiology, these approaches cause substantial toxicity and dysregulation of normal functions. In fact, documented toxicities that arise from systemic inhibition of TGF-ß signaling include cardiac toxicity, inflammation, and focal epithelial hyperplasia.

A potentially safer approach to fibrosis therapy is to inhibit specific pro-fibrotic signaling molecules, such as connective tissue growth factor and autotaxin, which operate downstream of TGF-ß activation, thereby mitigating the tolerability issues associated with systemic TGF-ß inhibition. While tolerability has been shown to improve with this approach, the efficacy shown to date has been modest, likely because TGF-ß activates multiple pro-fibrotic signaling pathways in addition to those targeted by these approaches.

Another recent approach is to prevent TGF-ß activation by stabilizing TGF-ß in its inactive form. However, it is not known whether latent TGF-ß stabilization can be accomplished in a tissue specific manner.

In addition to the historical difficulty in targeting TGF-ß, clinical development for the treatment of fibrosis has also been limited by the lack of tools to understand this complex multicellular process. Only certain parts of

this process can be modeled using cellular assays. More complete representations of fibrosis can be generated in animal models, but these models tend to be acute in nature and do not accurately represent disease pathology in humans which, in most cases, develops over decades.

Integrin Inhibitors as a Potential Treatment for Fibrosis

An ideal approach to fibrosis treatment would be one that inhibits TGF-ß activation in only those tissues where fibrosis is occurring. One potential way to accomplish this is to inhibit the integrin proteins that are known to be overexpressed in specific fibrotic tissue and cause the abnormal activation of TGF-ß. In several forms of fibrosis, namely IPF and PSC, TGF-ß activating integrins such as avß6 and avß1 are over-expressed. These integrins are normally expressed at low levels in healthy tissue. Therefore, we would not expect off-target toxicity effects by selectively inhibiting avß6 and avß1. By inhibiting fibrosis-specific TGF-ß activators such as these specific integrins, it is possible to block abnormal TGF-ß activation in the specific tissues where fibrosis occurs, without affecting TGF-ß signaling in healthy tissues. However, integrin drug development has historically been challenging due to the difficulty of developing small molecule integrin inhibitors that are both selective for specific integrins and bioavailable. Notably, a recent approach targeting integrins selectively with a monoclonal antibody was terminated due to safety concerns, which we believe may be related to antibody-mediated immune activation. We believe our pipeline of bioavailable highly selective small molecule integrin inhibitors has the potential to address these challenges.

Recently, large biopharmaceutical companies have begun to recognize the potential of anti-integrin approaches to treat fibrosis and made large investments in the space. AbbVie recently in-licensed a set of preclinical integrin inhibitors for the treatment of fibrosis including an avß6 inhibitor targeting IPF. The AbbVie product candidate is a single selective inhibitor of avß6; however, it has been shown that the expression of both avß6 and avß1 is upregulated in IPF. We believe that our dual-selective avß6/avß1 inhibitor approach has the potential to provide a more potent anti-fibrotic effect than a single selective avß6 inhibitor.

We believe that recent developments in the field of integrin inhibitors validate our initial focus on integrin inhibitors as a treatment for fibrosis. Utilizing our proprietary discovery and development capabilities, we believe that we have overcome key historical challenges to the development of integrin inhibitors, including potency, selectivity and bioavailability. We have identified two bioavailable and highly potent and selective integrin inhibitors. Our lead product candidate, PLN-74809, has completed Phase 1a trials and has demonstrated potential for a once daily oral dosing profile.

Our Capability and Approach to Fibrosis Drug Discovery and Development

Our approach to drug development in fibrosis combines our deep knowledge of the biology of fibrosis with various cellular, tissue, and *in vivo* assays developed in house to interrogate the biology of fibrosis and uncover pathways and potential targets. We developed an extensive panel of cell assays, precision cut tissue assays and animal models covering various types of fibrotic diseases. These assays allow us to evaluate target expression in fibrotic tissues as well as the anti-fibrotic activity of our candidates after treatment and begin to establish proof-of-biological-mechanism in both animal models and human tissue prior to initiating clinical trials. We believe these collective capabilities uniquely allow us to (i) efficiently identify targets, (ii) optimize the potency and selectivity of candidates and (iii) de-risk product candidates in advance of human proof-of-concept.

The first tool we use in our discovery process is our target expression atlas. Utilizing samples from normal and fibrotic human tissue, we developed a quantitative atlas of gene and protein expression across multiple fibrotic diseases. This database represents a wealth of data that we use to quantify expression of tissue specific targets for potential therapeutics. The atlas is continuously expanding through acquisition of additional samples as well as additional analyses. To date, we have advanced multiple potential targets to our early discovery pipeline.

The second important tool in our discovery process is our compound library that we screen for activity against targets identified through our target atlas. While we are agnostic to treatment modality, our initial targeted chemistry effort has been focused on integrin inhibitors, and our medicinal chemistry team has developed a proprietary library of over 7,000 potential integrin inhibitors. The goal of the library is to maximize structural diversity while targeting optimal absorption, distribution, metabolism and excretion, or ADME, properties. We expect that the library will continue to grow as we investigate new structures. We have designed the library based on in silico known X-ray structures/homology models, structure-activity relationships of structural motifs of known integrin inhibitors, and de novo molecular design. In addition to our proprietary integrin inhibitor library, we have a non-integrin compound library of over 70,000 compounds that we screen against non-integrin targets.

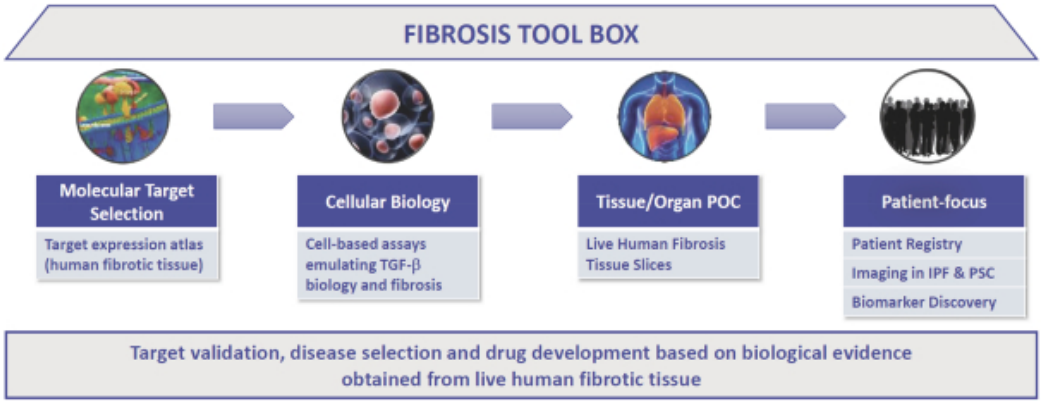
Once we have identified a potential target through our target expression atlas, we screen our library of compounds against the target. We have developed screening assays for 20 of the 24 known integrins and use these assays to evaluate the potency and selectivity of binding for our potential drug candidates prior to preclinical studies. Given the selectivity and potency challenges that have hampered integrin drug development, we believe our integrin assay panel represents a major step forward in integrin-based drug development.

We believe a key advantage of our development strategy is our ability to test our product candidates in live human fibrotic tissue, which helps us to bridge the gap between animal models and clinical proof-of-concept. We have developed proprietary protocols that extend the viability of live human explant tissue samples which allow us to reproducibly perform multiday experiments. We also maintain an on-call, around the clock team that obtains tissue samples following transplant procedures and transports those tissues to our lab within hours of explant, in a highly coordinated process. Our access to these live tissue samples allows us to evaluate the effects of our product candidates on multiple markers of anti-fibrotic activity. The data from these experiments increase our confidence that the tested product candidates will show anti-fibrotic effects in patients. In this way, our human tissue program serves to further de-risk product candidates and increase their likelihood of success in the clinic.

Once in clinical development, we continue to de-risk our programs by designing clinical trials that allow us to show proof-of-mechanism in advance of clinical efficacy data. Because fibrosis is a chronic disease, proof-of-efficacy in human trials is expensive and takes years to complete. We utilize pharmacodynamic biomarkers and advanced imaging techniques, including PET, to evaluate target engagement by our product candidates over relatively short time periods and observe whether the product candidate is having the anticipated effect. We believe obtaining these clinical data points in an efficient manner will allow us to optimize our clinical development strategy and resource allocation.

We and our partners also proactively conduct observational, natural history trials in target diseases to better understand disease pathophysiology and progression and develop new molecular biomarkers. Through these trials, we have gone on to develop patient registries and establish relationships with clinicians at leading medical research institutions dedicated to bringing novel fibrosis therapies to their patients.

We are developing an extensive biomarker discovery and validation program. We are seeking to develop biomarkers to (i) identify patients at high risk of rapid disease progression, (ii) identify patients more likely to respond to treatment and (iii) monitor early treatment responses. We are conducting clinical studies and other research with leading academic centers to track disease progression and collect biological samples such as blood, urine, and tissue biopsies which we can use to discover and validate novel biomarkers.



Our systematic approach to identifying and targeting integrins in fibrosis

Selective inhibition of TGF-ß activation in fibrotic tissues could potentially be the safest and most effective approach to treating fibrosis. One way to accomplish this is to inhibit the integrin receptors that drive excessive activation of TGF-ß. Given the importance of integrins in regulating the initial steps in fibrosis, we have focused our initial drug discovery efforts on a dual approach. This approach includes both biological profiling to identify which integrins are important in various diseased tissues and chemical profiling of libraries containing proprietary integrin inhibitors to help determine their selectivity and potency for individual integrins.

Utilizing our extensive in-house medicinal chemistry expertise, we have created a library of over 7,000 integrin-inhibitors. We screen this library against the integrin targets that we identify through our expression atlas and or biological profiling process. To our knowledge, this type of industrial-scale, systematic biological and chemical profiling, seeking selective inhibitors of one or more integrins, has not previously been carried out. We believe this combination makes our approach distinctive.

Central to our integrin inhibitor discovery process are our integrin assay panels. A key challenge in integrin inhibition, historically, has been selectivity for specific integrins. To address this challenge, we have developed assays against the 20 most relevant known integrins. We use these screening assays to measure potency and selectivity of potential candidates against these integrins. This allows us to quickly optimize the integrin binding profiles of potential development candidates in an iterative process.

Integrins can undergo conformational change. This results in different binding affinities. We believe an ideal integrin inhibitor should potently bind across the spectrum of conformations. Through the use of specific assays, we can measure the potency of our product candidates against multiple integrin conformations and seek to optimize for candidates that are able to potently bind to all conformations.

In addition to our deep understanding of integrin biology, we have gained significant insight in structure-activity relationships that determine integrin selectivity and optimal PK profiles. Utilizing this knowledge, we are now able to precisely engineer bioavailable integrin inhibitors with high potency and desired selectivity.

Our integrin inhibitor profiling capability has enabled us to quickly identify inhibitors that target individual integrins such as PLN-1474, which selectively inhibits avß1, as well as dual inhibitors such PLN-74809 which selectively targets both avß6 and avß1. Combining the data from our biological profiling and chemical profiling sets has enabled us to identify compounds that we believe have the highest potential for therapeutic activity in specific fibrotic diseases. Our iterative drug discovery effort focuses on drug-like properties of compounds early in the testing process. Compounds are screened for *in vitro* potency/selectivity and ADME/PK properties. This enables us to move from compound optimization to *in vivo* testing in a matter of months.

In addition to PLN-1474 and PLN-74809, we continue to evaluate our broad proprietary library of integrin inhibitors to identify additional product candidates to treat fibrotic diseases. Furthermore, our approach allows us to use our discovery and development capabilities to develop non-integrin therapeutic modalities to treat fibrotic diseases. Our rich library also provides a deep series of potential backup molecules with structurally unique chemotypes that we believe can enhance the probability of clinical success.

As with all of our development efforts, a key approach to preclinically de-risking our integrin inhibitor candidates is evaluation of the candidates in live human fibrotic tissue obtained following transplant procedures. The ability to observe effects of our product candidates on gene expression in human tissues prior to entering the clinic provides a bridge from animal models to clinical proof-of-concept and helps give us additional confidence as we move toward human trials. Similarly, if our *ex vivo* live human tissue studies show little or no effect on the target genes, we can quickly reallocate resources, saving time and money, and minimizing unnecessary patient exposure.

A second important de-risking strategy involves biomarker measurement in both preclinical and early stage clinical studies. By utilizing specific biomarkers such as pSMAD2/3 that operate immediately downstream from TGF-ß, we are able to measure the effects of our drugs on TGF-ß activation. We believe understanding the ability of our drug candidates to reduce TGF-ß activation is crucial to gaining confidence in the anti-fibrotic activity of our product candidates as we move forward in the clinic.

In our Phase 2 clinical trials, we are using an advanced imaging technique to generate mechanistic data and de-risk the development of our candidates. Fibrosis is a chronic process and it can take 6 months to a year to see a clinical benefit with a drug candidate. We are utilizing PET imaging to evaluate target engagement in patients and to determine if PLN-74809 is having an effect in the tissues. We have an ongoing collaboration with Stanford pursuant to which we are evaluating Stanford's avß6 PET ligand in IPF patients. We are using this ligand to evaluate the level of avß6 expression in the lungs of IPF patients, as well as to measure our product candidate's ability to bind avß6. In addition to the avß6 PET ligand, we are internally developing PET ligands to other integrins that we will use to evaluate subsequent product candidates.

Our product candidates

PLN-74809 for the treatment of IPF and PSC

Our lead product candidate, PLN-74809, is an oral small-molecule, dual-selective inhibitor of avß6 and avß1 integrins which we are developing for the treatment of IPF and PSC. We have received orphan drug designation for PLN-74809 in both IPF and PSC. We completed a Phase 1a trial of PLN-74809 in healthy volunteers and a Phase 1b trial in which we assessed target engagement and proof-of-mechanism in healthy volunteers by examining the inhibition of TGF-ß activation in alveolar macrophages. We are currently enrolling two Phase 2a trials of PLN-74809 in IPF patients.

Idiopathic pulmonary fibrosis background

IPF is a debilitating, age-related lung disease of unknown causes that has few treatment options. It is a form of progressive pulmonary fibrosis that leads to thickening and stiffening of the lung tissue resulting in the loss of lung function. As tissue scarring progresses, the lungs' ability to transfer oxygen into the bloodstream becomes increasingly impaired. Average life expectancy at the time of confirmatory diagnosis of IPF is estimated to be between three and four years. Approximately 60 to 80 percent of patients die within five years of diagnosis. These survival rates are worse than those of many late stage cancers, such as stage 3 breast cancer.

Patients with IPF experience debilitating symptoms, including shortness of breath and difficulty performing routine functions, such as walking and talking. Other symptoms include a chronic, dry, hacking cough; fatigue; weakness; discomfort in the chest; loss of appetite; and weight loss. IPF is a rare disease that affects approximately 140,000 people in the United States. There are an estimated 30,000 to 40,000 new cases diagnosed each year.

Currently, there is no pharmacological cure for IPF and only a small proportion of late-stage IPF patients may be eligible for a lung transplant. The current non-transplant standard of care aims to slow the disease progression and improve the quality of life. Two therapies to treat IPF have recently been approved by the FDA: Esbriet® (pirfenidone), marketed by Genentech, and OFEV® (nintedanib), marketed by Boehringer Ingelheim. After decades during which the FDA approved no new treatments for IPF, the approvals of pirfenidone and nintedanib represented a major breakthrough for IPF patients. However, while these therapies may help slow the decline of lung function, neither drug has been shown to stop the progression of IPF. We believe that, despite the approval of pirfenidone and nintedanib by FDA, there remains an unmet need for IPF patients that we plan to address through our product candidate.

Despite its mechanism of action being unknown, pirfenidone has been shown in registrational trials to have a modest effect on slowing the progression of IPF as measured by forced vital capacity, or FVC, in approximately fifteen percent of patients. Recent studies suggest that pirfenidone may have an impact on survival compared to placebo, but these results have not been confirmed. In March 2020, the FDA granted breakthrough therapy designation for pirfenidone for treatment of unclassifiable lung fibrosis.

Nintedanib is an inhibitor of multiple tyrosine kinases that are receptors for growth factors such as platelet-derived growth factor, or PDGF, fibroblast growth factor, or FGF, and vascular endothelial growth factor or VEGF. Nintedanib reduced the rate of decline of pulmonary function in multiple trials by approximately half and led to significant delays in the time to acute disease exacerbation. While treatment was associated with a trend towards increased survival in registration trials, it has not been shown conclusively to have a survival benefit. Recent exploratory analyses from pooled data from six clinical trials of nintedanib suggest that nintedanib may extend life expectancy in patients with IPF. The FDA approved nintedanib for the treatment of lung fibrosis associated with systemic sclerosis in September 2019, and for the treatment of chronic fibrosing interstitial lung disease, or ILD with a progressive phenotype in March 2020.

Elevated liver enzymes have been observed with both of these drugs, requiring monitoring of liver tests and potentially temporary dose reduction and discontinuation. Cases of drug-induced liver injury, including one fatal outcome, have been reported in patients treated with nintedanib. Pifenidone's prescribing information also carries a similar warning about elevated liver enzymes. Despite the remaining unmet need, combined sales of pirfenidone and nintedanib in 2018 were over $2 billion. IPF remains a major cause of morbidity and mortality and an area of high unmet medical need for which a commercial opportunity remains.

Primary sclerosing cholangitis background

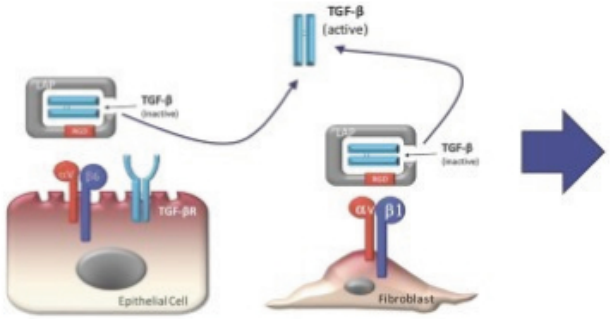
PSC is a progressive liver disorder characterized by inflammation and fibrosis of the bile ducts which transport bile from the liver to the intestines. This type of fibrosis often results in obstruction or interruption of bile flow from the liver, a condition known as cholestasis, leading to liver fibrosis. Cirrhosis eventually develops and many individuals ultimately require a liver transplant. PSC patients are also at a higher risk of developing hepatobiliary cancers, including a 5 to 20 percent lifetime chance of developing cholangiocarcinoma, a typically rare form of cancer with an especially poor prognosis. The exact cause of PSC is unknown. PSC is normally diagnosed at middle age, with a median age at diagnosis of approximately 40 years old. The prevalence of PSC in the United States is estimated to be between 30,000 and 45,000 patients.

In the absence of liver transplant, median survival of PSC patients is 10 to 12 years following diagnosis without intervention. There are currently no approved pharmacological treatments for PSC. A number of immunosuppressive and anti-inflammatory agents have been studied in patients with PSC, but none has been conclusively proven to slow progression. Liver transplantation is the only available treatment for PSC patients; however, disease has been shown to recur in up to 20 percent of patients following transplantation.

Our solution, PLN-74809

PLN-74809 is a small-molecule that selectively inhibits both avß6 and avß1 integrins that we are developing as a potential therapy for IPF and PSC. We have determined that TGF-ß activation in fibrosis

associated with IPF and PSC involves both avß6 and avß1 integrins. It has been shown that expression of both avß6 on epithelial cells and avß1 on fibroblasts can lead to excessive activation of TGF-ß in fibrosis. Epithelial tissue includes any tissue that lines the surfaces of the body such as alveoli, bile ducts, urinary tract, skin, and gastrointestinal tract. Each of these tissues contains multiple cell types including epithelial cells and fibroblasts. An important secondary effect of the TGF-ß cascade is that it promotes upregulation of avß6 on epithelial cells. The increased expression of these integrins on the cell surface contributes in turn to further TGF-ß activation in a TGF-ß-driven positive feed-forward loop.

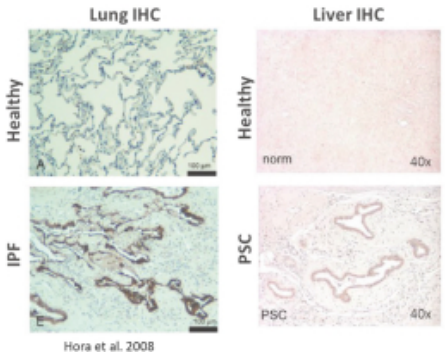


Activation of TGF-ß by $a_vß_6$ and $a_vß_1$ leads to:

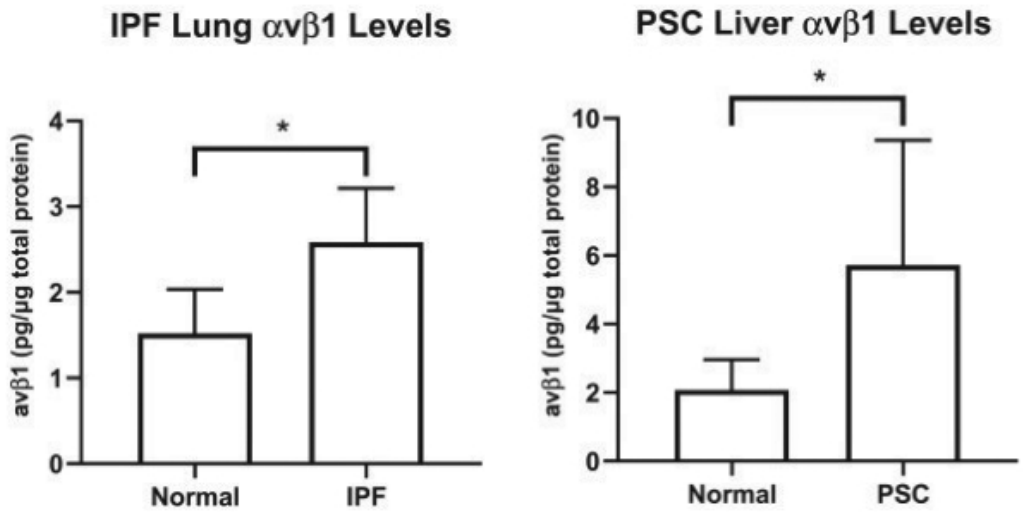
- Activation of TGF-ß signaling pathways
- Expression of pro-fibrotic genes including *COL1A1*
- Subsequent collagen production and deposition
- Additional upregulation of $a_vß_6$

Epithelial tissue fibrosis is driven by two types of integrins

Data from our lab, as well as scientific literature, have shown that avß6 and avß1 proteins are overexpressed in at least two different fibrosis indications: IPF and PSC. In lung tissue from IPF patients we and others have shown that alveolar epithelial cells have elevated avß6 expression, and that the level of over-expression correlates with disease severity. We have also shown that in these patients, avß1 expression is upregulated. In liver tissue from PSC patients, we have shown that avß6 is upregulated in cholangiocytes, the epithelial cells that line the bile ducts, and that avß1 is upregulated in whole fibrotic liver tissue. avß6 and avß1 are normally expressed at very low levels in healthy tissue making them ideal targets for selectively inhibiting TGF-ß activation in IPF and PSC.



avß6 is upregulated in the lung tissue of IPF patients and the liver tissue of PSC patients

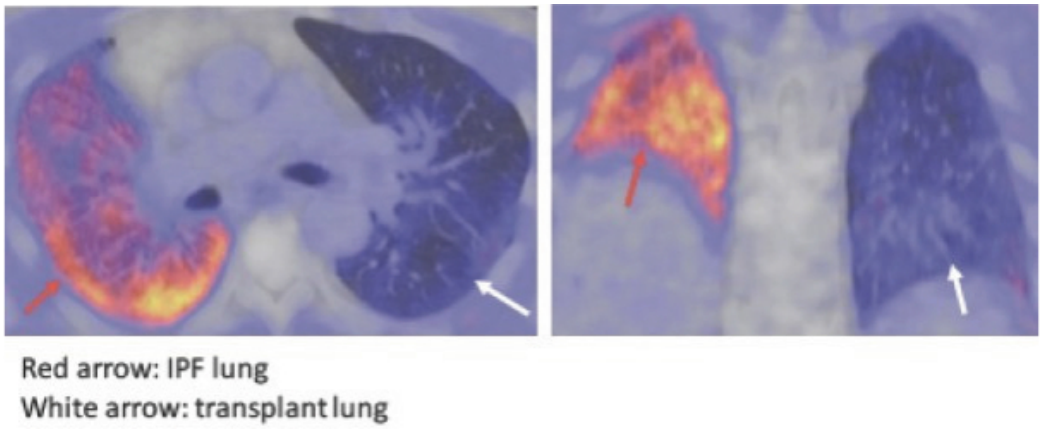


* = $p < 0.05$(1)

(1) A p-value is the probability that the reported result was achieved purely by chance, such that a p-value of less than or equal to 0.05 or 0.01 means that there is a 5.0% or 1.0% or less probability, respectively, that the difference between the control group and the treatment group is purely due to chance. A p-value of 0.05 or less typically represents a statistically significant result.

avß1 expression is upregulated in lung and liver fibrosis

We have conducted a non-interventional clinical trial in IPF patients to assess the expression of integrin avß6 using a PET ligand. This trial confirmed that patients with IPF have high levels of integrin avß6 expression, which tend to be co-localized with fibrotic regions of the lungs. This trial was published in Nature Communications in 2019. The specificity of this PET ligand can be seen in images from an IPF patient who received a unilateral lung transplant. The PET ligand is only taken up in the diseased lung but not in the transplanted healthy lung.



Pulmonary avß6 PET ligand uptake in an IPF patient with a unilateral lung transplantation is confined to the IPF lung

We have shown that inhibition of both avß6 and avß1 integrins is required to maximally inhibit the expression of *COL1A1*, a key gene that encodes type I collagen, in models of lung and biliary fibrosis as well as in human IPF tissue. *COL1A1* is a TGF-ß regulated gene that is expressed in fibrotic tissue. The expression level of *COL1A1* correlates with the amount of collagen deposited as measured by the standard biochemical method of quantification of hydroxyproline, an amino acid that is a major component of collagen.

Clinical development of PLN-74809

Completed trials

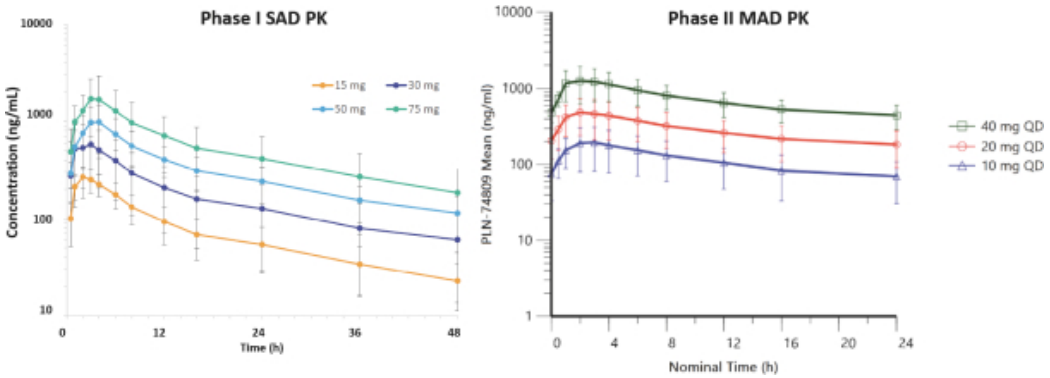
We completed a Phase 1a SAD/MAD and food effect clinical trial of PLN-74809 in healthy volunteers. In the SAD portion of the trial, single doses of PLN-74809 were administered to 32 volunteers across four cohorts at doses of 15, 30, 50 and 75 mg. Eight additional volunteers in the SAD portion of the trial received placebo. In the MAD portion of the trial, PLN-74809 was administered orally to 27 volunteers, once-daily over 14 days at 10, 20 and 40 mg. Six additional volunteers in the MAD portion of the trial received placebo. In the food effect part of the trial, PLN-74809 was administered to 12 volunteers, administered as a single dose with and without food. PLN-74809 was shown to be well tolerated with no dose-related adverse events. All but two adverse events reported in the entire trial were mild except for a moderate adverse event of dental abscess (SAD, 30 mg dose cohort) and a moderate adverse event of viral syndrome (MAD, 40 mg dose cohort). All adverse events resolved or recovered and no dose relationship for adverse events was observed. No notable findings were observed for laboratory abnormalities, vital signs or ECG/telemetry.

Adverse Events Reported by Participants Receiving PLN-74809 in Phase 1a Trials

Trial	Adverse Event	Severity	Drug Related?
SAD (n=32)	–	–	–
	Constipation [a]	Mild	No
	Tooth Abscess [a]	Moderate	No
	Headache	Mild	No
	–	–	–
	Skin Abrasion	Mild	No
FE-P1 (n=12)	–	–	–
FE-P2 (n=12)	Upper Respiratory Tract Infection	Moderate	No
	Constipation	Mild	No
MAD (n=27)	Constipation	Mild	No
	Ligament Sprain [b]	Mild	No
	Constipation [b]	Mild	No
	Constipation	Mild	No
	Contact Dermatitis	Mild	No
	Migraine[c]	Mild	No
	Epigastric Discomfort[c]	Mild	Yes
	Viral Syndrome [d]	Moderate	No
	Frequent Bowel Movements [d]	Mild	No
	Muscle Spasm [d]	Mild	No

FE=food effect; MAD=multiple ascending dose; P1=period 1; P2=period 2; SAD=single ascending dose.
a, b, c, d: same participant.

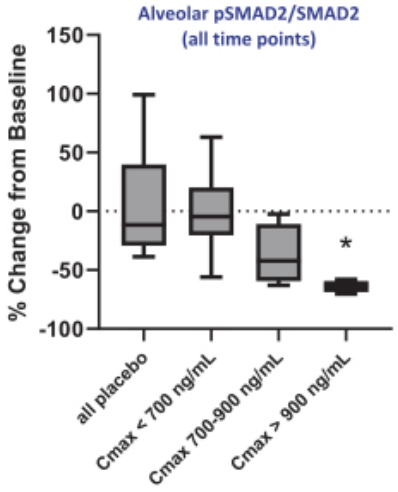
Additionally, PLN-74809 was well absorbed, and displayed a half-life of over 40 hours. PLN-74809 reached steady state plasma concentrations after seven days of dosing. Co-administration of PLN-74809 with food decreased drug concentrations relative to the fasted state, with AUC decreasing by approximately 40 percent and C_{max} by approximately 50 percent.

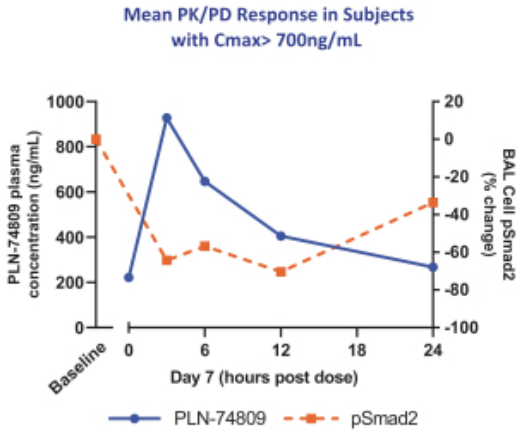


We have also completed a Phase 1b proof-of-mechanism trial in healthy volunteers that was similar in design to our previously completed non-human primate mechanistic trial. The purpose of this randomized, double-blind, ascending-dose, placebo-controlled trial was to evaluate PLN-74809's ability to inhibit TGF-b activation in the lung as measured by pSMAD2 levels in pulmonary alveolar macrophages collected from BAL fluid and to further characterize the PK/PD relationship in humans. Additionally, this trial will serve to inform dosing in our planned Phase 2a trials. We conducted this trial in healthy volunteers due to the safety risks associated with performing multiple BAL procedures in IPF patients.

We enrolled 18 volunteers across four dose cohorts (each cohort randomized 3:1 active to placebo). Two cohorts were dosed at 20 mg once daily and two cohorts were dosed at 40 mg once daily. Volunteers underwent an initial BAL procedure prior to treatment to measure baseline pSMAD levels. They were then treated with PLN-74809 or placebo for seven days, after which they underwent two additional BAL procedures to measure the amount of pSMAD reduction post-treatment at multiple time points. By utilizing two cohorts each for the 20 mg and 40 mg doses, we were able to measure pSMAD and drug levels at 4 different time points post treatment for each dose (3, 6, 12 and 24 hours post-dose on day 7), allowing assessment of PK/PD relationship over a 24-hour period.

In the Phase 1b trial, 16 participants completed pre- and post-treatment BAL procedures. Four out of six participants (66%) receiving the high dose of PLN-74809 experienced ³49% reductions in pSMAD2 levels at six hours post-dose relative to baseline levels. Notably, all four of the volunteers in the high dose cohort with reductions in pSMAD2 levels also achieved plasma concentrations of PLN-74809 corresponding to the predicted plasma protein adjusted IC_{50} of 700 ng/ml. The two volunteers in the high dose cohort who did not achieve these concentrations did not experience reductions in pSMAD2 levels. In the low dose cohort, no volunteers achieved plasma protein adjusted IC_{50}, and only one volunteer experienced significant reduction in pSMAD2 levels post treatment, relative to baseline levels. These results demonstrate PLN-74809's effect on reducing TGF-b activation in the lungs in a dose- and exposure-dependent manner, supporting a PK/PD relationship in humans. These data support the biological activity of PLN-74809 and will guide dose selection and trial design as we move into Phase 2a trials.





Treatment with PLN-74809 was well tolerated with no drug-related adverse events. None of the adverse events reported were observed in more than one participant. In the 40-mg dose cohort, two trial participants discontinued treatment prematurely (one participant receiving PLN-74809 and one receiving placebo) and did not undergo post-treatment BAL procedures; these participants were subsequently replaced.

Adverse Events Reported by Participants Receiving PLN-74809 in Phase 1b Trial

Groups	Adverse Event	Severity	Drug Related?
(n = 6)	Deafness [a]	Mild	No
	Frequent Bowel Movements	Mild	No
	Middle Ear Infusion	Mild	No
(n = 7) [b]	ECG QT Interval Elongated [c]	Mild	No

a – Unilateral earwax for 6 hr on day 1; subject completed 7 days dosing without recurrence or additional adverse events.
b – One subject was replaced due to prolonged QT interval.
c – ECG finding after first dose; baseline ECG abnormalities were already present.

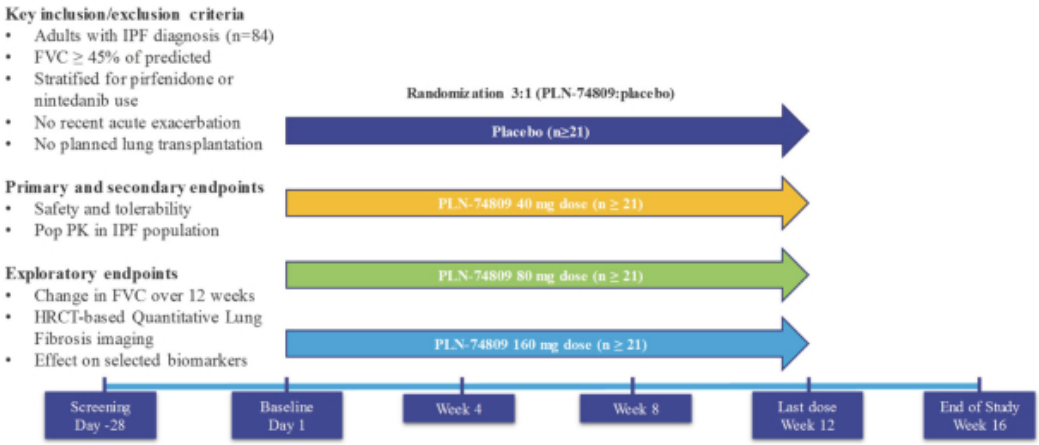
Current and planned clinical trials for IPF and PSC

We are currently enrolling two Phase 2a trials of PLN-74809 in patients with IPF. The first of these is an open label trial utilizing a PET ligand to avß6 that allows imaging of target engagement by PLN-74809 in the lungs of IPF patients during treatment. Patients will receive a single dose of PLN-74809 across a dose range starting at 60 mg. We will obtain a PET scan at baseline to evaluate avß6 expression levels in the patients' lungs and then initiate treatment with open-label PLN-74809. A post-treatment PET scan will be performed at approximately three hours after administration of the dose, which will enable us to evaluate PLN-74809's target engagement in patients' lungs at maximum drug concentration. When PLN-74809 binds to the avß6 receptor, we would expect to see decreased PET ligand uptake in the lungs post-treatment when compared to pre-treatment levels. The relationship between dose and target engagement is important to guide dose selection in future studies.

Our second currently enrolling Phase 2a trial is a randomized, double-blind, placebo-controlled IPF trial evaluating up to three doses of PLN-74809 in IPF patients. We plan to explore doses up to 160mg per day at the

highest dose. This trial is a 12-week trial evaluating safety and tolerability, as well as PK in IPF patients. We plan to evaluate exploratory endpoints including pulmonary function tests, biomarkers, and imaging, including Quantitative Lung Fibrosis HRCT imaging, or QLF. This is a multinational trial with over 40 sites in U.S., Canada, Australia, New Zealand and multiple countries in Europe.

12 Week Safety, PK, Biomarker Trial in IPF Patients



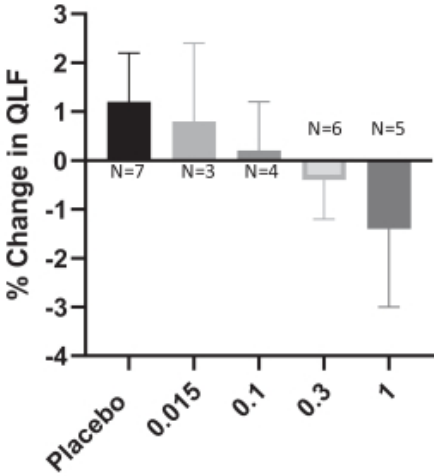
Design of 12 week Phase 2a IPF trial

In our 12-week Phase 2a IPF trial, we are utilizing QLF as a biomarker for early detection of changes in lung fibrosis. QLF is a fibrosis biomarker assessed using high resolution CT imaging, and utilizes quantitative image analysis to measure the density of lung tissue and quantify the volume of fibrosis present in the lung. QLF technology was developed by MedQIA, and has been evaluated in over 5,000 ILD patients, showing an ability to predict FVC decline in patients with IPF. While we will measure both endpoints, we believe QLF may allow us to detect changes in lung fibrosis in a more specific way than FVC.

QLF has been utilized in recent clinical trials to evaluate early treatment effects in the amount of lung fibrosis present. In Biogen's Phase 2a trial of BG00011, a mAb targeting avß6, dose-dependent trends in QLF were seen at 8 weeks, with the 1mg/kg cohort actually showing a decrease in the amount of fibrosis present with a r=-0.49 correlation to FVC.

Biogen Phase 2a

- 41 IPF patients in five dose cohorts
- Treatment: **8 weekly SC doses** of placebo or BG00011
- Dose-dependent TGF-β suppression measured by reductions in pSMAD
- Dose-dependent reduction in mean QLF scores up to the 1 mg/kg group
- Changes in QLF score and FVC were correlated (r = -0.49)



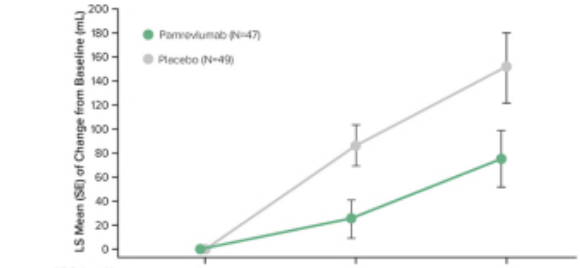
Note: Excludes 3.0mg/kg cohort which in which three patients experienced exacerbations resulting in increases in QLF score.

Biogen's Phase 2a 8-week QLF Results

Additionally, Fibrogen utilized FVC in their Phase 2 trial of pamrevlumab, their anti-CTGF mAb, in IPF. Fibrogen showed 71% and 50% reductions in progression of fibrosis versus placebo at 24 and 48 weeks, respectively, as measured by QLF.

Fibrogen Phase 2

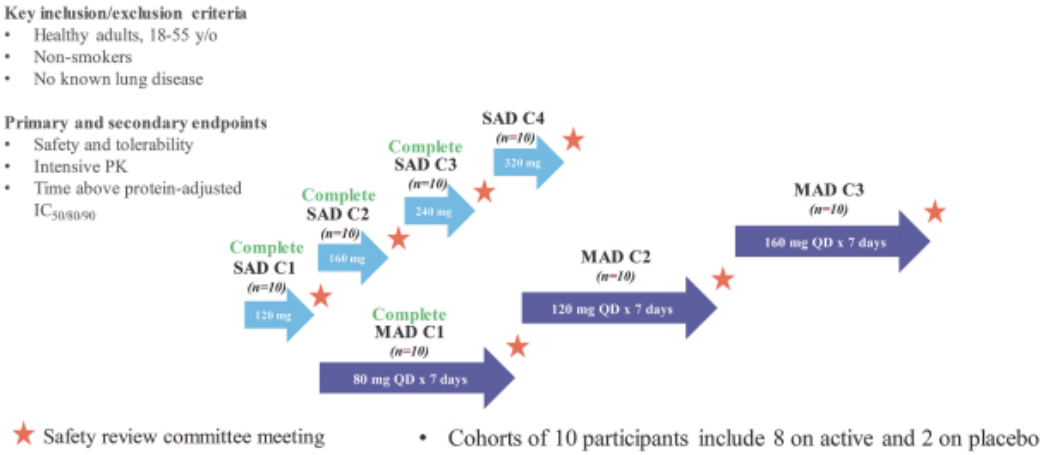
- 96 IPF patients – single dose/placebo
- 50% reduction in QLF progression at 24 weeks
- QLF predictive of change in FVC



Visit (week)	BL	24	48
Pamrevlumab		24.8 (16.00)	75.4 (23.20)
Placebo		86.4 (17.26)	151.5 (29.26)
Absolute Difference		-61.6 (23.55)	-76.2 (36.68)
95% CI		(-107.8, -15.4)	(-148.2, -4.2)
Relative Difference		-71.3%	-50.3%
P-Value		0.009	0.038

In addition to the two Phase 2a trials, we are currently conducting an extended Phase 1 dose escalation trial in healthy volunteers. Based on preclinical findings and the results of our Phase 1b healthy volunteer BAL trial, we believe the human effective dose range for PLN-74809 may be between 40 mg and 160 mg administered once

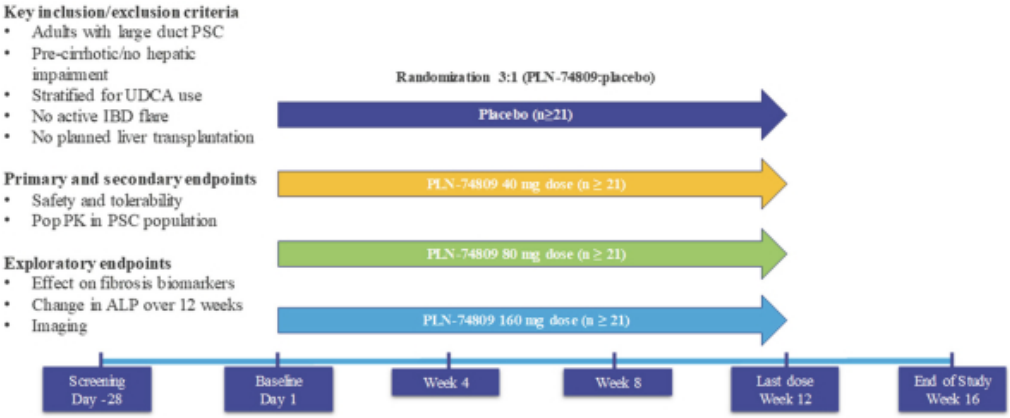
daily. To efficiently evaluate safety and PK at these higher doses, are conducting a single center, randomized, blinded, placebo-controlled, sequential SAD/MAD study. In the SAD cohorts, volunteers will receive a single dose of PLN-74809, starting at 120 mg in cohort 1 and increasing to a max of 320 mg in cohort 4. Cohorts 1 (120 mg), 2 (160 mg) and 3 (240 mg) of the SAD have been completed and there were no new safety concerns. Cohort 1 (80 mg) of the seven-day MAD portion of the trial has been completed and has been deemed to be well tolerated. Subsequent MAD cohorts dosing will increase by 40 mg per cohort, up to 160 mg once daily in Cohort 3. The selection of doses in the SAD cohorts was chosen to provide daily plasma concentrations (area under the curve or AUC) of PLN-74809 similar to steady state concentrations expected to be achieved in the corresponding MAD cohorts. The results of the continued SAD/MAD trial will guide dose selection in the 12-week Phase 2a IPF and PSC trials.



Design of Extended SAD/MAD Dose Escalation Trial

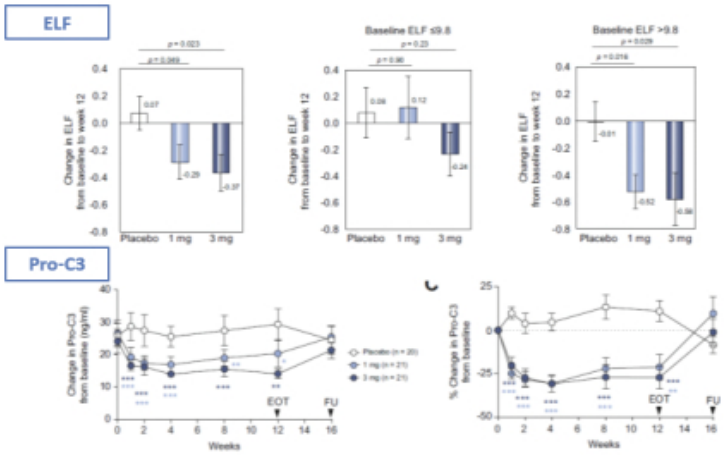
We plan to file an IND for PLN-74809 in PSC in the first half of 2020 and to initiate our third Phase 2a randomized, double-blind, placebo-controlled trial in PSC patients as soon as possible thereafter. We plan to utilize a similar approach to the previously described IPF study enrolling PSC patients, evaluating up to three doses of PLN-74809 or placebo.

12 Week Safety, PK, Biomarker Trial in PSC Patients



Design of 12 week Phase 2a PSC trial

The primary endpoints for our Phase 2a PSC trial will be safety and tolerability, as well as PK. We will also employ exploratory endpoints including fibrosis biomarkers including PRO-C3 and ELF, which are predictive of transplant-free survival in PSC patients, change in alkaline phosphatase, and liver imaging. Regulators have suggested that composite endpoints including biomarkers such as a alkaline phosphatase, PRO-C3 and ELF coupled with liver histology may support approval in PSC. Gilead and Dr. Falk's are both including liver histology as a primary endpoint in their respective Phase 3 PSC trials. NGM Biopharmaceuticals, Inc., or NGM, showed dose-dependent changes in PRO-C3 and ELF at 12 weeks in its Phase 2a PSC trial, with levels returning to baseline after treatment was removed.



NGM ELF and Pro-C3 Data Over 12 Weeks of Treatment in PSC

Other Potential Development Plans for PLN-74809

We are currently exploring the potential effects of PLN-74809 in fibrotic diseases outside of IPF and PSC and may choose to explore the development of PLN-74809 in additional indications in the future. For example,

we believe PLN-74809 could provide anti-fibrotic benefits in several pulmonary and hepatic fibrosis diseases where there is over-expression of avß6, including pulmonary fibrosis associated with systemic sclerosis, pulmonary fibrosis associated with rheumatoid arthritis, pulmonary fibrosis associated with other forms of interstitial lung disease, primary biliary cholangitis, or PBC, biliary atresia and progressive familial intrahepatic cholestasis, or PFIC. Additionally, we believe that PLN-74809 could provide anti-fibrotic benefits in the setting of end stage renal disease.

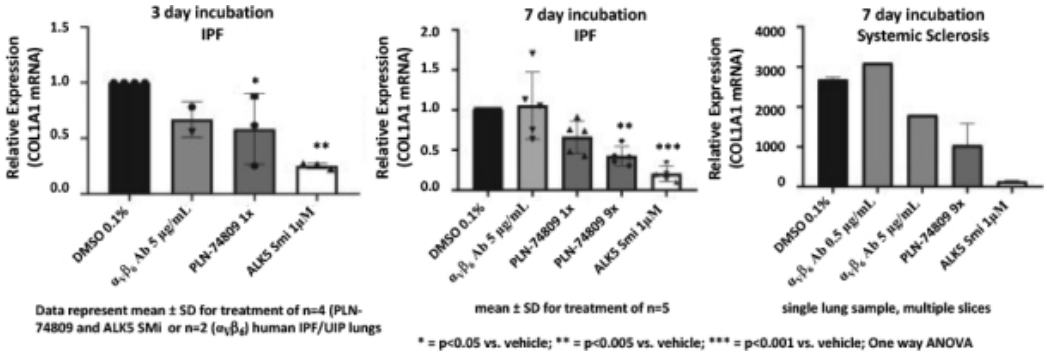
Preclinical data in IPF

Summary Preclinical Data in IPF	
Preclinical Findings	**Observations**
PLN-74809 reduced collagen gene expression in live human ILD lung tissue	• Greater than 50% decrease in expression of *COL1A1* relative to DMSO vehicle control seen in lung tissue from five IPF patients and one systemic sclerosis patient • An antibody to avß6 did not significantly decrease expression
pSMAD3 was correlated with extractable collagen levels in patients suspected of having IPF	• pSMAD3 and extractable, or newly formed, collagen 1 were measured in biopsy samples from 18 patients and 5 controls. • pSMAD3 and extractable collagen 1 were correlated with an r value of 0.7807 ($p<0.0001$)
avß6 and avß1 expression is elevated in mouse bleomycin IPF models	• In both acute and chronic bleomycin IPF mouse models, expression of avß6 and avß1 integrins was higher in bleomycin exposed animals compared to healthy controls
Dual avß6 and avß1 inhibition decreased collagen more than avß6 or avß1 single inhibition in live human IPF lung tissue	• Dual inhibition of avß6 and avß1 at 10x IC_{50} significantly decreased expression of *COL1A1* and other profibrotic genes relative to DMSO vehicle control • Single inhibition of either avß6 and avß1 at 10x IC_{50} did not show significant decrease in *COL1A1* expression
PLN-74809 showed a dose dependent reduction in collagen fiber density in a mouse bleomycin IPF model	• Three weeks of treatment with PLN-74809 utilizing second-harmonic generation resulted in a dose dependent decrease in collagen fiber density • Fibrous composite score was significantly reduced in a dose dependent manner vs. vehicle control
PLN-74809 decreased TGF-ß activation in chronic bleomycin mouse model	• After two weeks of treatment with PLN-74809 levels of pSMAD3 were significantly reduced compared to PBS vehicle control • Post-treatment pSMAD3 levels were similar to those of healthy controls
Inhibition of avß6 and avß1 blocked TGF-ß activation in the pulmonary cells of non-human primates	• After seven days of treatment with dual avß6 and avß1 inhibitor pSMAD2 levels were reduced by greater than 75% in pulmonary cells of non-human primates • An anti-avß6 antibody showed approximately 50% decrease • Dual inhibition showed a clear PK/PD relationship with maximal pSMAD2 suppression was achieved and maintained while drug concentrations were in the effective dose range (i.e., above the plasma protein adjusted IC_{50}, or p.a. IC_{50})
PLN-74809 binds to all conformations of avß6 and avß1 in biochemical assays	• PLN-74809 binds both bent-closed and extended-open conformations of avß6 and avß1

PLN-74809 reduced collagen gene expression in live human ILD lung tissue

In an assay using live lung tissue from five patients with IPF, application of PLN-74809 for seven days led to significant decrease of >50% in expression of *COL1A1*, a key gene responsible for collagen production. The degree of inhibition observed with PLN-74809 approaching that of a complete blockade of TGF-ß signaling

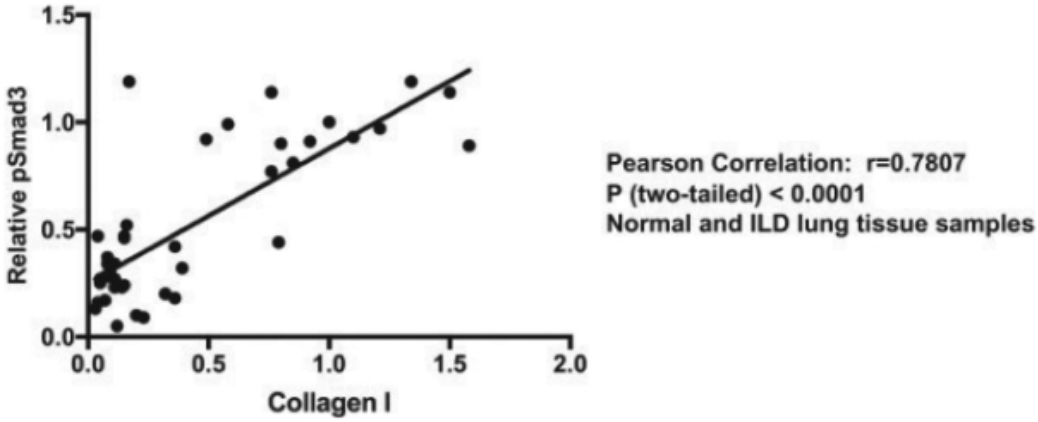
using a direct inhibitor of its TGF-ß type I receptor kinase, also known as ALK5. In contrast, an avß6-specific monoclonal antibody, or mAb, that we synthesized based on publicly available information regarding Biogen's antibody, 3G9, was unable to significantly inhibit *COL1A1* expression. In the same assay, using live lung tissue from a patient with systemic sclerosis-associated pulmonary fibrosis, application of PLN-74809 for seven days also led to a decrease of >50% in expression of *COL1A1*.



Combined inhibition of avß6 and avß1 provided increased anti-fibrotic activity in live human fibrotic tissue as compared to DMSO vehicle control.

pSMAD3 was correlated with extractable collagen levels in patients suspected of having IPF

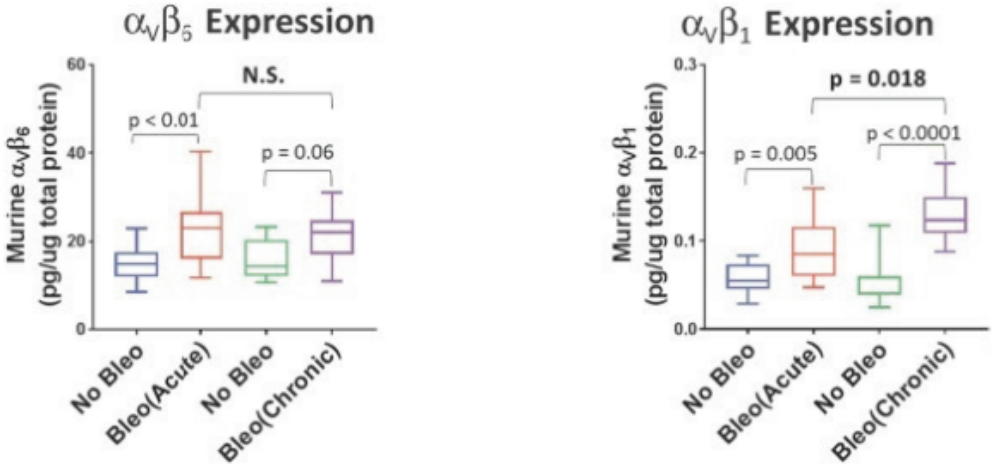
Open lung biopsies for histologic confirmation of IPF diagnosis were performed in 18 patients with interstitial lung disease, or ILD, who were suspected of having IPF. As part of this analysis, five controls (non-transplanted donor lungs) were also included. Multiple biopsies were taken from different lobes of each lung. Total pSMAD3 and extractable collagen 1 were measured by western blot. Extractable collagen 1 is thought to be collagen that has been recently formed and has not been cross-linked to the extracellular matrix. Total pSMAD3 and extractable collagen were significantly correlated. Higher pSMAD3 levels corresponded to higher levels of recently produced collagen.



pSMAD3 levels are correlated with extractable collagen in lung biopsies from patients suspected of having IPF

avß6 and avß1 expression is elevated in mouse bleomycin IPF model

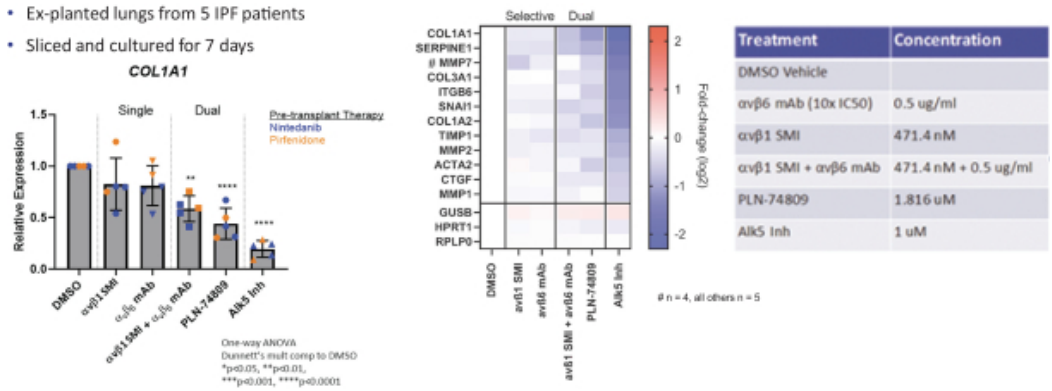
We used the increased expression of both avß6 and avß1 integrins in human disease samples to select animal models with similar characteristics which we then employed for higher-throughput and more extensive testing than would be feasible with primary human tissue. The bleomycin model is the most extensively used model of IPF due to its ability to reproduce many aspects of the disease. The pattern of expression of integrins suggests that the bleomycin model can serve as a valid preclinical surrogate for evaluating the effects of integrin inhibition in IPF. We confirmed that both avß6 and avß1 integrins are upregulated in a mouse model of pulmonary fibrosis induced by exposure to bleomycin. In both acute and chronic versions of this model, expression of avß6 and avß1 integrins were higher in bleomycin-exposed animals compared to healthy controls.



avß6 and avß1 expression in murine bleomycin model

Dual avß6 *and* avß1 *inhibition decreased collagen more than* avß6 *or* avß1 *single inhibition in live human IPF lung tissue*

To further understand the anti-fibrotic effect of single vs. dual integrin inhibition, we performed assays on live human lung tissue explanted from IPF patients during transplant. We incubated the samples for seven days with either a single selective avß1 small molecule inhibitor, a single selective avß6 inhibitor (avß6 mAb), or a dual selective avß6/avß1 inhibitor. Dual selective inhibition was accomplished with either PLN-74809 or a combination of the small molecule avß1 inhibitor and the avß6 mAb. In this assay, we also compared against an inhibitor of the TGF-ß receptor kinase ALK5, as a positive control. We measured effects on pro-fibrotic gene expression through the mRNA counts for *COL1A1*. The small molecule inhibitor of avß1 and the avß6 mAb, each dosed at 10x their IC_{50}, failed to show a significant reduction in *Col1a1* expression when administered individually. When the small molecule inhibitor of avß1 and the avß6 mAb were incubated as a combination therapy, *COL1A1* expression was significantly reduced. PLN-74809 also showed a significant reduction in *COL1A1* expression. We also evaluated gene expression across a broad panel of additional pro-fibrotic genes. Similar to *COL1A1*, dual inhibition resulted in a greater reduction in gene expression across the panel versus single inhibition.

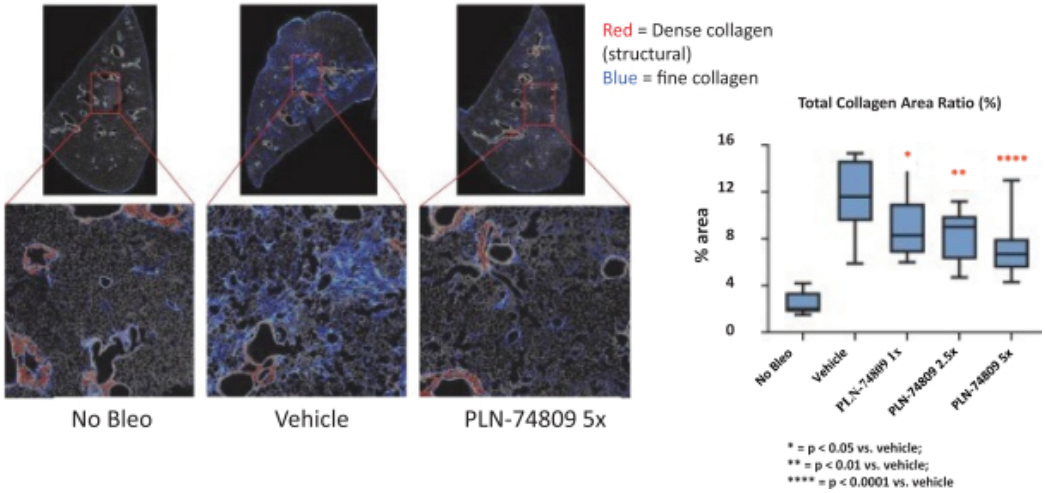


Treatment	Concentration
DMSO Vehicle	
αvβ6 mAb (10x IC50)	0.5 ug/ml
αvβ1 SMI	471.4 nM
αvβ1 SMI + αvβ6 mAb	471.4 nM + 0.5 ug/ml
PLN-74809	1.816 uM
Alk5 Inh	1 uM

Dual avß6/avß1 **inhibition blocked profibrotic gene expression more than single inhibition (**avß6 **or** avß1**) in live human IPF lung tissue**

PLN-74809 showed a dose-dependent reduction in collagen fiber density in a mouse bleomycin IPF model

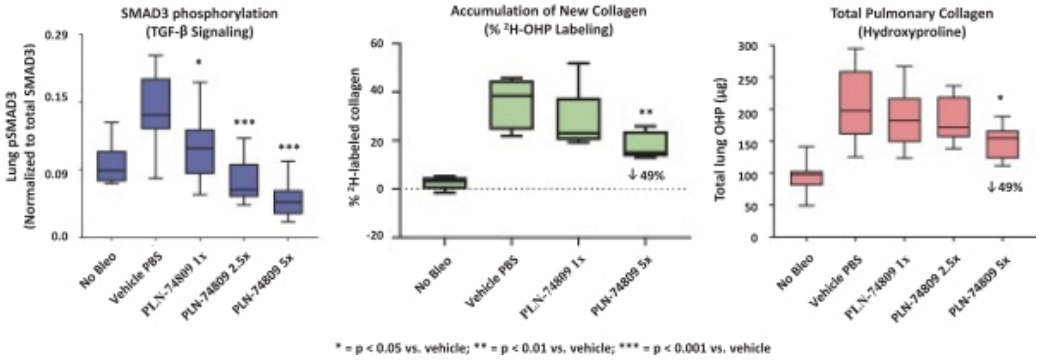
We evaluated three doses of PLN-74809 in a mouse bleomycin IPF model utilizing second-harmonic generation to evaluate the amount of new collagen formation ongoing post-treatment with PLN-74809. We evaluated a range of doses against vehicle control and saw a dose dependent reduction in collagen fiber density and fibrosis composite score.



PLN-74809 resulted in a dose-dependent decrease in collagen fiber density in a mouse bleomycin IPF model as measured through second-harmonic generation

PLN-74809 decreased TGF-ß activation in chronic bleomycin mouse model

We confirmed through biochemical analyses that anti-fibrotic efficacy of PLN-74809 in the bleomycin model was due to blockade of TGF-ß activation. A key biochemical marker of TGF-ß activation is the phosphorylation of SMAD2/3. In the bleomycin model, two weeks of treatment with PLN-74809 reduced pSMAD3 levels in a dose-dependent manner to those seen in control mice that had not been exposed to bleomycin in the acute IPF model. In addition, levels of newly formed collagen, or neo-collagen, and total lung collagen as measured by hydroxyproline content were significantly reduced in a dose-dependent manner in the treatment group.

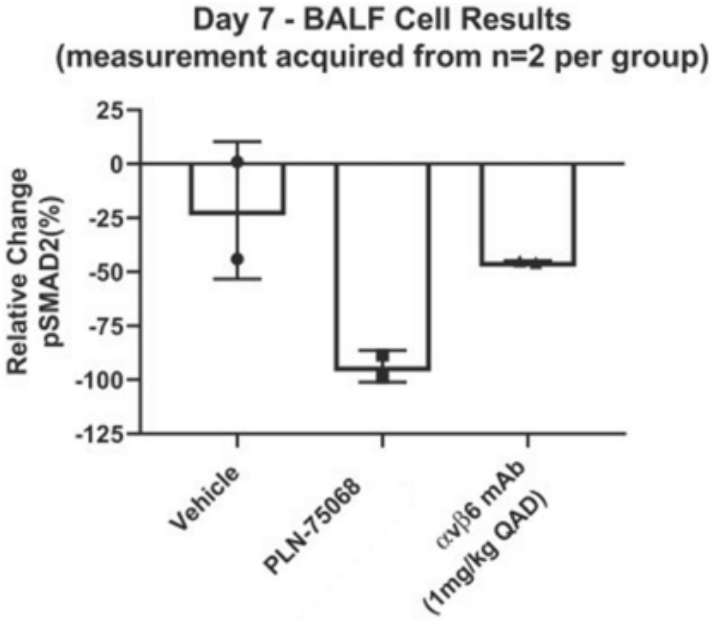


PLN-74809 blocked TGF-ß activation in a chronic bleomycin model

The ability to measure TGF-ß activation through SMAD phosphorylation also provided us with the opportunity to develop SMAD2/3 phosphorylation as a biomarker that correlates with avß6 and avß1 integrin inhibition.

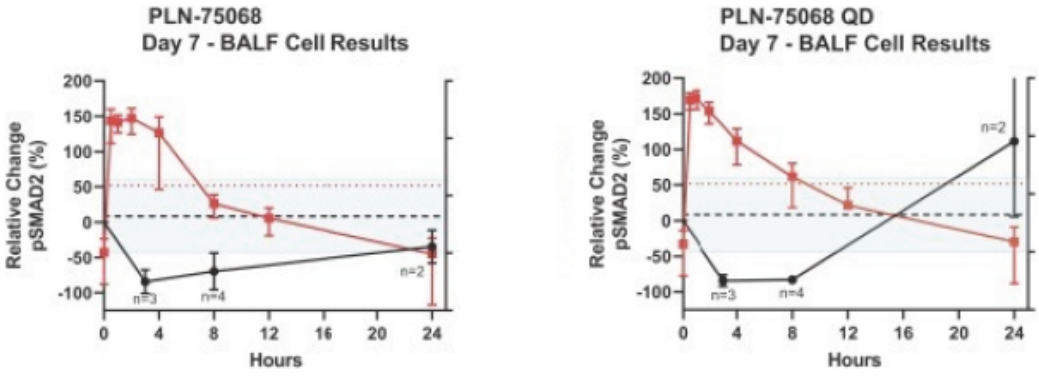
Inhibition of a*vß6 and* a*vß1 blocked TGF-ß activation in the pulmonary cells of non-human primates*

We conducted a non-human primate study to validate pSMAD as a biomarker for TGF-ß activation for future clinical studies. Given that this study will not be part of our regulatory package for our lead compound, PLN-74809, we used PLN-75068, a close analog to PLN-74809, with a similar binding and PK profile for this particular study. In the first stage of this study, we treated non-human primates with PLN-75068 twice daily, or with the avß6 mAb at 1 mg/kg every other day for seven days. We performed BAL procedures on the monkeys pre- and post- treatment and measured pSMAD2 levels in the pulmonary macrophages. BAL fluid collected three hours after dosing showed a significant reduction of pSMAD2 levels when compared to pre-treatment levels. The avß6 mAb showed pSMAD2 level reduction as well, but the effect was less pronounced than for PLN-75068.



BID Dosing of PLN-75068 reduced pSMAD2 levels in non-human primate alveolar fluid

A second stage of this study was designed to evaluate the PK/PD relationship between PLN-75068 and the inhibition of TGF-ß activation. In this stage, we dosed monkeys at either a low or high dose once a day for seven days. We designed the study to obtain multiple BAL measurements after the last treatment in order to understand how changes in the pSMAD2 levels relate to serum levels of PLN-75068. Dosing of PLN-75068 in non-human primates showed a decrease in the pSMAD2 levels at both doses. Soon after dosing, when drug concentrations were at their peak, the levels of pSMAD2 levels showed a reduction of more than 75 percent. As the drug concentration decreased, pSMAD2 levels gradually returned to baseline levels. Importantly, both dosing groups resulted in similar levels of pSMAD2 level reduction; however, the higher dose stayed in the effective dose range longer, and therefore maintained pSMAD2 level reduction for a longer period.

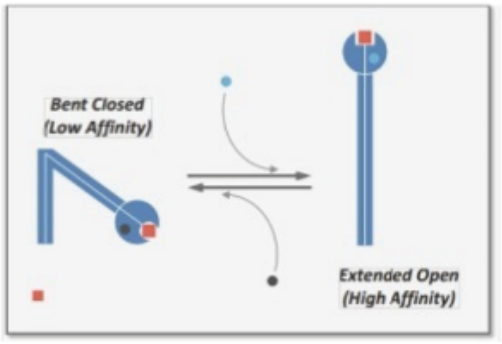


QD dosing of PLN-75068 reduced pSMAD2 levels

PLN-74809 binds to all conformations of avß6 *and* avß1 *in biochemical assays*

Integrins are cellular adhesion proteins having a high degree of structural flexibility with two predominant forms: an extended form with high affinity for binding to ligands, and a bent or closed form in which the ligand binding domain has low affinity for binding to ligands. The conformation of the integrin can also dramatically alter the binding of potential therapeutics such as antibodies.

Biochemical profiling of PLN-74809 confirms that it can inhibit both avß6 and avß1 integrins in both the high-affinity, extended open conformation as well as in the lower-affinity, bent closed conformation and thus has the potential to block integrin interactions regardless of the initial state of the receptor.



	Human Integrin	Conformation	Affinity, K_D (nM)
PLN-74809	$\alpha_v\beta_1$	Bent closed (Mg^{2+})	1.92
		Extended open (Mn^{2+})	0.075
	$\alpha_v\beta_6$	Bent closed (Mg^{2+})	1.32
		Extended open (Mn^{2+})	0.037

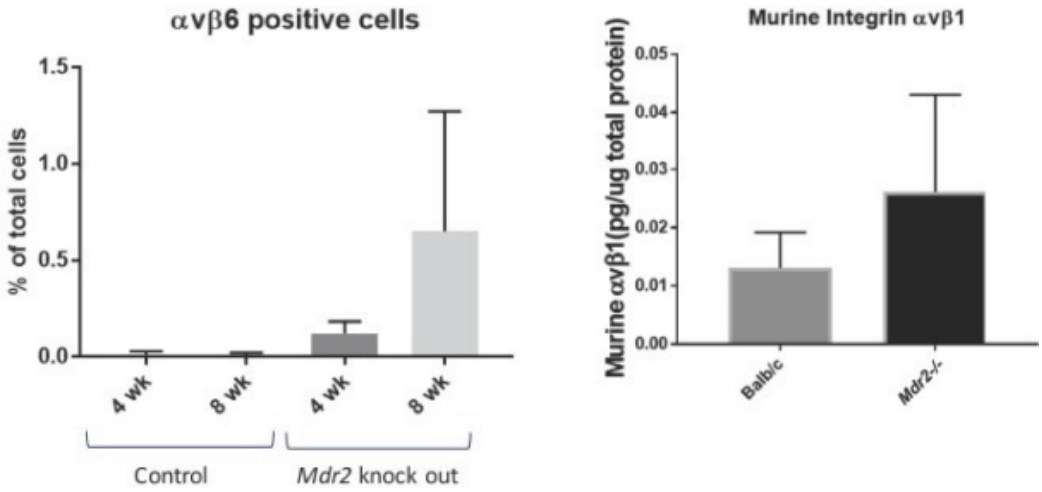
PLN-74809 binds to both high-affinity and low-affinity conformations of avß1 **and** avß6

Preclinical data in PSC

Summary Preclinical Data in PSC	
Preclinical Findings	**Observations**
avß6 and avß1 are overexpressed in human PSC liver tissue as well as a mouse model of PSC	• We confirmed that the widely used *Mdr2* knockout PSC mouse model shows upregulation of both avß6 and avß1, similar to our observations in diseased tissue from PSC patients
PLN-74809 showed a dose dependent reduction in fibrosis in a mouse PSC model	• Six weeks of treatment with PLN-74809 resulted in a significant dose-dependent reduction in fibrosis compared to vehicle treated mice • pSMAD3 levels were also significantly reduced in a dose-dependent manner
PLN-74809 reduced cholestasis markers in PSC model	• After six weeks of treatment with PLN-74809, at the highest dose tested, we observed a significant reduction of alkaline phosphatase and total bilirubin
PLN-74809 decreased *COL1A1* expression in live human PSC and PBC liver tissue samples more than OCA	• After two days incubation with PLN-74809 we observed dose-dependent reductions in *COL1A1* gene expression in live liver samples from a PSC patient and a PBC patient after transplant • Incubation with OCA did not achieve the same level of reduction of *COL1A1* expression as PLN-74809

avß6 and avß1 are overexpressed in human PSC liver tissue as well as a mouse model of PSC

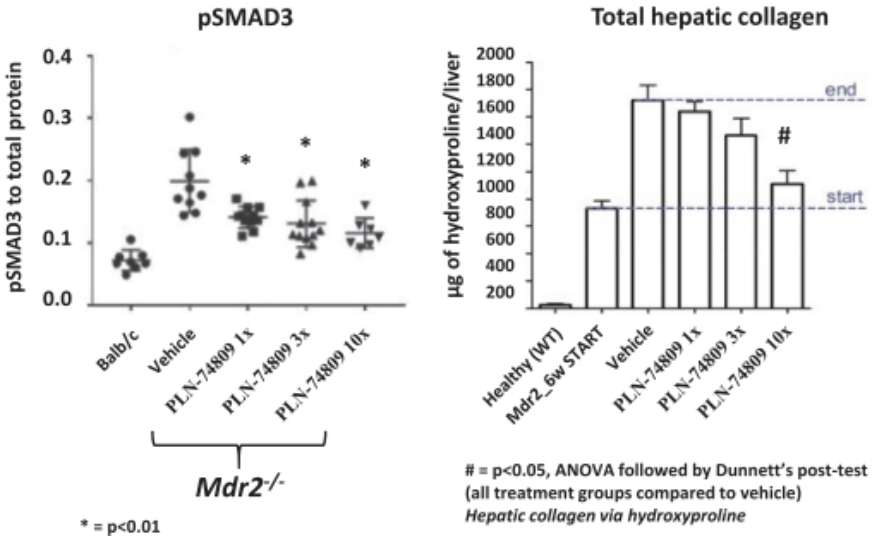
Similar to our approach in diseased tissue from an IPF patient, we examined the expression patterns of integrins in live, diseased tissue obtained from a patient with PSC. We found that both avß6 and avß1 integrins are overexpressed in these tissues. We then went to the standard animal model for PSC based on a deletion of the *Mdr2* gene in mice and confirmed that in this model both avß6 and avß1 are overexpressed compared to normal control mice.



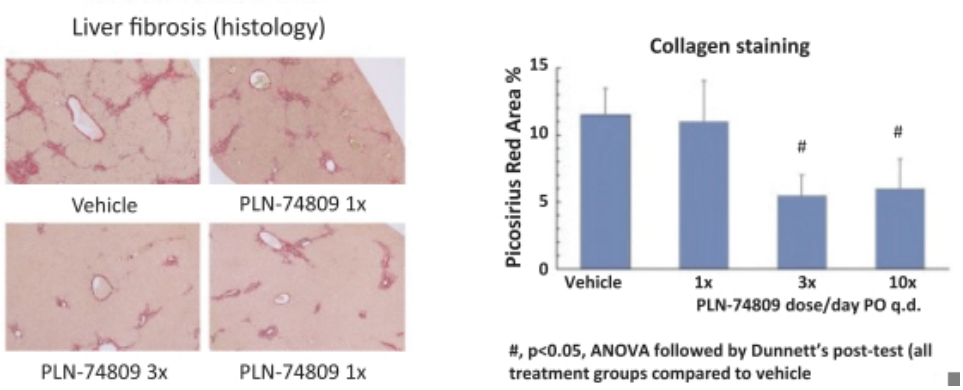
Both avß6 and avß1 are overexpressed in a *Mdr2* knockout model of PSC

PLN-74809 showed a dose dependent reduction in fibrosis in a mouse PSC model

In *Mdr2*-deficient mice that have developed biliary fibrosis resembling PSC, dosing with PLN-74809 for six weeks resulted in a significant, dose-dependent reduction in fibrosis compared to vehicle treated mice. Similar results were observed whether the analyses were based on collagen levels as measured by hydroxyproline, pSMAD3 levels or histological staining.



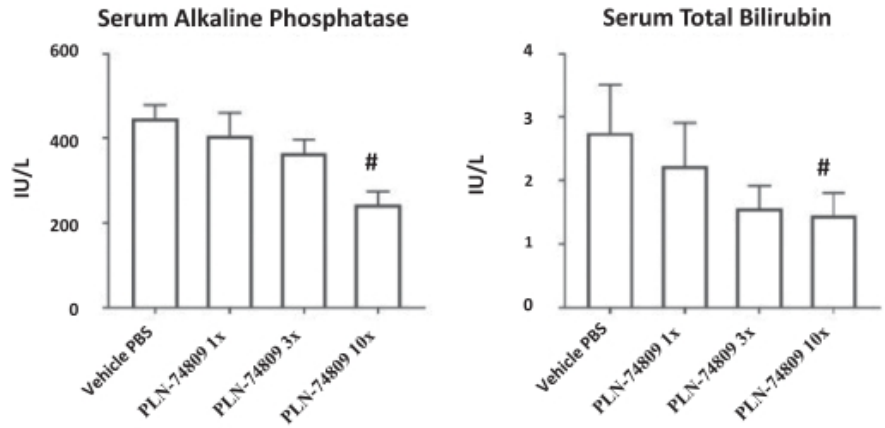
PLN-74809 showed reduction of fibrosis in the *Mdr2* deficient PSC model



PLN-74809 showed improved histology score in the *Mdr2* deficient PSC model

PLN-74809 reduced cholestasis liver biomarkers in PSC model

Treatment of *Mdr2*-deficient mice with PLN-74809 also reduced in a dose-dependent manner serum levels of alkaline phosphatase and total bilirubin compared to vehicle controls. Both are markers of cholestasis.

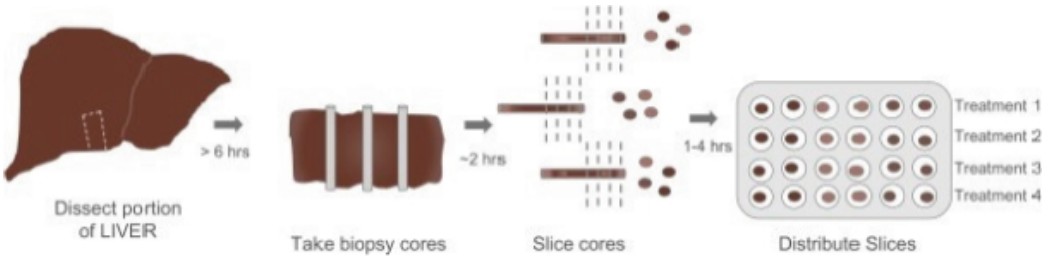


One-way ANOVA w/ mult. comp.; # = p<0.05, ANOVA followed by Dunnett's post-test (all treatment groups compared to vehicle)

PLN-74809 reduced cholestasis markers in PSC model

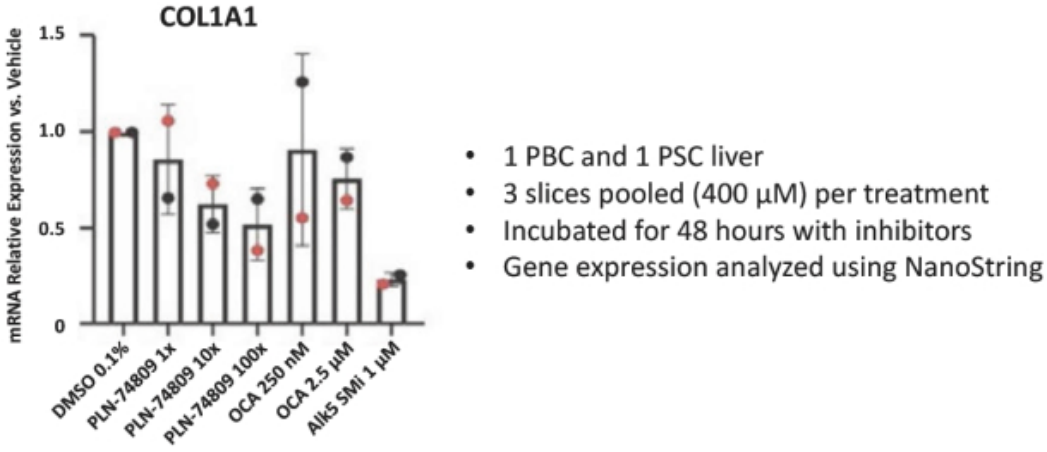
PLN-74809 decreased COL1A1 expression in live human PSC and PBC liver tissue samples more than OCA

We assessed the anti-fibrotic activity of our integrin inhibitors using liver samples obtained from a PSC patient and a PBC patient. We used precision-cut tissue slices to establish *ex vivo* tissue culture samples that mimic the multicellular characteristics of organs. The use of these precision-cut tissue culture assays not only provides the opportunity to assess the effects of our compounds directly on diseased human tissue, but also allows this to be done in a three-dimensional, multicellular context that better represents the complexity of the diseased tissue environment.



Assessing anti-fibrotic activity of compounds in live human liver fibrosis tissue

Live tissue samples from a PSC patient and a PBC patient were incubated for two days with varying concentrations of PLN-74809 and obeticholic acid, or OCA, a drug approved for the treatment of PBC. Incubation with PLN-74809 led to a significant dose-dependent decrease of *COL1A1* expression, while incubation with OCA did not.



PLN-74809 blocked fibrosis in live human PSC and PBC liver tissue

PLN-1474 for the treatment of liver fibrosis and NASH

PLN-1474 is a selective inhibitor of avß1 integrin that we are developing for the treatment of stage F3/F4 liver fibrosis in patients with NASH. PLN-1474 is a bioavailable inhibitor that has shown anti-fibrotic activity in multiple animal models of liver fibrosis as well as in live human NASH fibrotic liver tissue. In October 2019, we entered into a license and collaboration agreement with Novartis under which Novartis received global rights to develop and commercialize PLN-1474 for NASH associated liver fibrosis. We are currently conducting a Phase 1 trial of PLN-1474 in healthy volunteers. Novartis will reimburse us for all development activities associated with the Phase 1 trials, and will be responsible for all development and commercialization following Phase 1.

Background on liver fibrosis and NASH

NASH is a severe form of NAFLD that is associated with the development of liver fibrosis and potentially life-threatening liver dysfunction. NAFLD is characterized by increased amounts of fat in the liver, or steatosis. NAFLD is believed to occur due to a combination of factors including high caloric diet, obesity and metabolic syndrome, type 2 diabetes mellitus and genetics. Early stages of the disease often have no symptoms other than slightly elevated or fluctuating levels of liver enzymes in some patients.

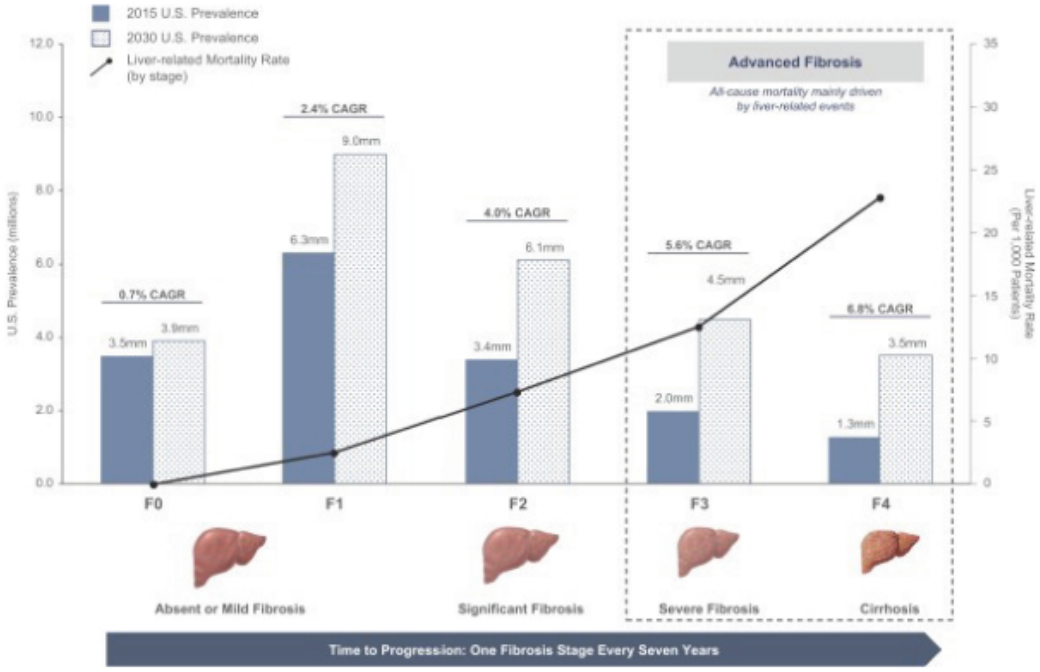
As excess fat builds up in the liver, it can eventually cause lipotoxicity, resulting in inflammation in the liver and leading to injury of hepatocytes, known as ballooning. It is this combination of steatosis, inflammation and hepatocellular ballooning that defines NASH. Over time, NASH can lead to fibrosis of the liver. Fibrosis can progress to cirrhosis, resulting in impaired liver function and increased risk of liver-related complications and mortality. In fact, liver fibrosis is an independent predictor of liver-related morbidity and all-cause mortality in NASH. There are currently no FDA approved therapies for NASH, and to date investigational NASH therapies have only shown modest anti-fibrotic benefits in published clinical trials.

It is estimated that 30 to 40 percent of adults in the United States have NAFLD and approximately 30 percent of these patients, or up to 12 percent of adults, will develop NASH. NASH is already highly prevalent,

affecting approximately 16.5 million adults in the United States with approximately 3.3 million at stage F3/F4 liver fibrosis. NASH is a growing problem with U.S. cases expected to top 27 million by 2030, with approximately eight million at stage F3/F4 liver fibrosis.

While NASH is becoming more common in the general population, identifying patients with increased risk of liver-related morbidity and mortality is important for clinical management. While steatosis, inflammation and hepatocellular ballooning are the measures used to diagnose NASH, to date, the presence and severity of liver fibrosis is the only proven independent predictor of poor clinical outcomes in NASH. Cirrhosis associated with NASH is the fastest growing indication for liver transplantation in the United States.

Approximately 10 to 15 percent of NASH patients will ultimately progress to cirrhosis over time. On average, these patients advance one fibrosis stage every seven years. NASH patients, regardless of stage of fibrosis, have an estimated annual mortality rate of 1.5 to 3.5 percent per year, mostly due to cardiovascular complications. However, when patients progress to stage F2 fibrosis or greater, liver-related complications become the highest risk for mortality. Each progressive stage of fibrosis correlates to a dramatic increase in liver-related mortality risk. Moreover, patients with F3 and F4 fibrosis carry liver-related mortality risk that is 17 times and 42 times greater, respectively, than NASH patients without fibrosis. We believe treatments with a potent anti-fibrotic effect would be more likely to have a meaningful impact on clinical outcomes for NASH patients with F3 to F4 fibrosis.



Stages of liver fibrosis

There are currently no FDA approved therapies for the treatment of NAFLD or NASH. Lifestyle changes and exercise to reduce body weight and treatment of concomitant diabetes and dyslipidemia comprise the cornerstone of treatment but are not sustainable in the majority of patients. For patients with cirrhosis, liver transplantation is the only potential treatment option, but transplant livers are not widely available, and only a

minority of these patients will be eligible for a transplant due to the risks, costs and complexities associated with the procedure. NASH is the second leading indication for liver transplantation in the United States, but is also the most rapidly growing indication and is expected to eventually overtake alcoholic liver disease as the largest driver of liver transplant.

There are many candidates in development for the treatment of NASH that target various aspects of the disease. A number of these candidates are directed at reducing the underlying causes of the disease such as obesity and diabetes or addressing fat accumulation in the liver by altering lipid metabolism. Other candidates are focused on suppressing the inflammatory stage of NASH with the intent of preventing the progression of fibrosis. To date, only modest improvements in liver fibrosis stage or severity have been reported with investigational compounds evaluated in patients with NASH. Our approach is to directly target the fibrosis pathway with the goal of preventing progression or reversing advanced fibrosis (F3/F4). Given TGF- ß's central role to fibrosis pathophysiology, we believe that directly targeting the TGF-ß activation pathway via avß1 integrin inhibition holds the potential to provide a more clinically meaningful anti-fibrotic effect than current investigational therapies, and ultimately prevent disease progression to cirrhosis and liver related complications.

Our solution, PLN-1474

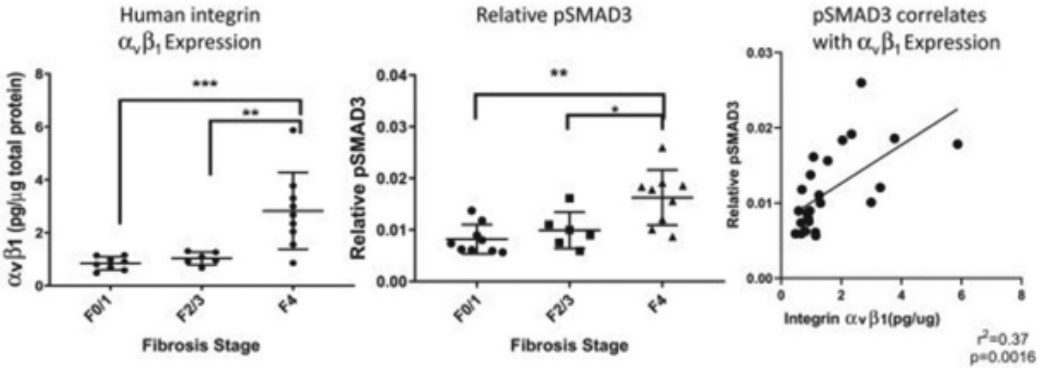
PLN-1474 is a bioavailable, small-molecule, selective inhibitor of avß1 mediated TGF-ß activation. We are developing PLN-1474 as an anti-fibrotic therapy for patients with F3/F4 stage liver fibrosis associated with NASH. We have shown that in human fibrotic liver tissue from patients with NASH that the levels of avß1 are significantly elevated in tissue from patients with stage 4 fibrotic disease. Overexpression of avß1 is correlated with TGF-ß activation as measured by pSMAD3 levels. Therefore, we believe a single-selective inhibitor of avß1 is a promising and differentiated approach to treating NASH associated liver fibrosis. In October of 2019, we entered into a license and collaboration agreement with Novartis through which Novartis obtained a global license to PLN-1474. We are currently conducting a Phase 1 trial with PLN-1474 in healthy volunteers and expect data in the second half of 2020. Novartis will reimburse us for all development activities associated with the Phase 1 trials, and will be responsible for all development and commercialization following Phase 1.

Preclinical data

Summary of Preclinical Data in NASH	
Preclinical Findings	**Observations**
avß1 and TGF-ß activation are upregulated in human F4 NASH liver biopsies	• Levels of avß1 and pSMAD3 levels are both significantly elevated in tissues from patients with stage F4 liver fibrosis • Levels of avß1 and pSMAD3 levels are highly correlated in NASH liver biopsies
PLN-1474 is associated with anti-fibrotic activity in live human fibrotic NASH liver tissue	• After two days incubation with PLN-1474 we observed a significant reduction in *COL1A1* gene expression in live liver samples from three NASH patients after transplant • Gene expression of *TIMP1*, a strong predictor of mortality in patients with fibrosis, was also reduced after incubation
PLN-1474 resulted in a broad decrease in expression of pro-fibrotic genes in an abbreviated mouse model of NASH	• In an abbreviated CDA-HFD mouse NASH model, after 3 weeks of treatment, mice treated with PLN-1474 showed decreased expression of a broad set of profibrotic genes relative to vehicle controls
PLN-1474 showed dose-dependent reduction of fibrosis in NASH and liver fibrosis mouse models	• Six weeks of treatment with PLN-1474, resulted in a significant dose-dependent decrease in expression of *Col1a1* and *Col1a2* as well as hydroxyproline in a CDA-HFD NASH mouse model • After one week of treatment with PLN-1474, we observed significant dose-dependent reductions in *Col1a1*, *Col1a2* and *Col3a1* in a CCL_4 liver fibrosis mouse model
PLN-1474 decreased collagen fiber density and characteristics via 2nd harmonic generation analysis in a NASH fibrosis model	• Six weeks of treatment with PLN-1474 utilizing 2^{nd} harmonic generation, resulted in a dose-dependent decrease in collagen fiber density and fibrosis composite score in a CDA-HFD NASH mouse model
PLN-1474 potently binds to all conformations of avß1	• PLN-1474 binds both bent-closed and extended-open conformations of avß1

avß1 and TGF-ß activation are upregulated in human F4 NASH liver biopsies

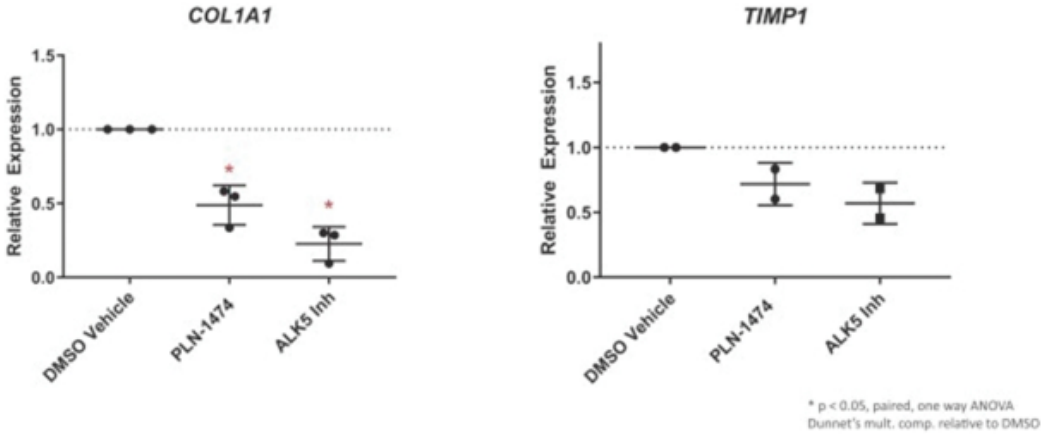
We measured avß1 protein expression and pSMAD3 levels in a group of late-stage liver fibrosis biopsies. In F4 biopsies, avß1 was significantly overexpressed relative to F0/F1 biopsies. Similarly, the pSMAD3 levels were also significantly elevated in F4 biopsies compared to F0/F1.



avß1 and pSMAD3 levels are both upregulated in F4 liver fibrosis

PLN-1474 is associated with anti-fibrotic activity in live human fibrotic NASH liver tissue

We assessed the anti-fibrotic activity of PLN-1474 in live human NASH liver tissue. Precision cut tissue slices from multiple F4 NASH livers treated with PLN-1474 exhibited a mean 50 percent reduction in the levels of *COL1A1* expression compared to vehicle treated controls. In the PLN-1474 treated tissue slices, we also saw a significant reduction in the gene expression of *TIMP1*, which encodes the tissue inhibitor of metallopeptidase, or TIMP-1. In a recent study, TIMP-1 was shown to be a strong predictor of all-cause mortality in patients with fibrosis. TIMP-1 is one of the three components of the Enhanced Liver Fibrosis, or ELF, score, a non-invasive clinical diagnostic test to assess the likelihood of having clinically significant fibrosis. These results suggest that selective inhibition of avß1 could have clinically meaningful anti-fibrotic activity in NASH patients with advanced fibrosis.

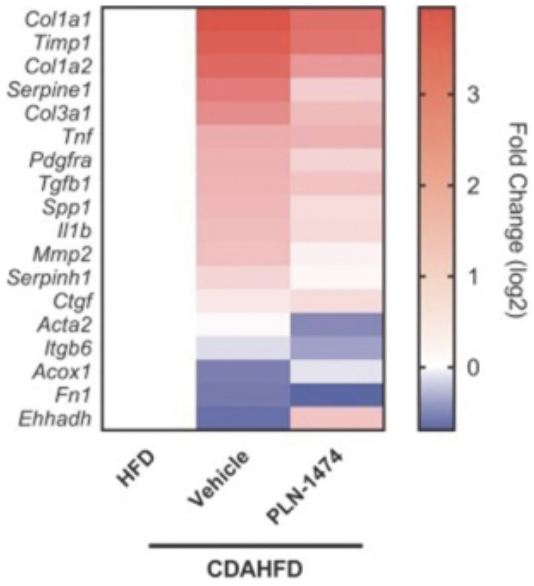


PLN-1474 significantly reduced *COL1A1* and *TIMP1* gene expression in human NASH liver tissue

PLN-1474 resulted in a decrease in expression levels of a broad panel of pro-fibrotic genes in an abbreviated mouse model of NASH

Mice were treated prophylactically with PLN-1474 for 3 weeks in an abbreviated CDA-HFD mouse NASH fibrosis model. A broad panel of profibrotic genes showed decreased expression in mice treated with PLN-1474 relative to mice that were treated with a vehicle control.

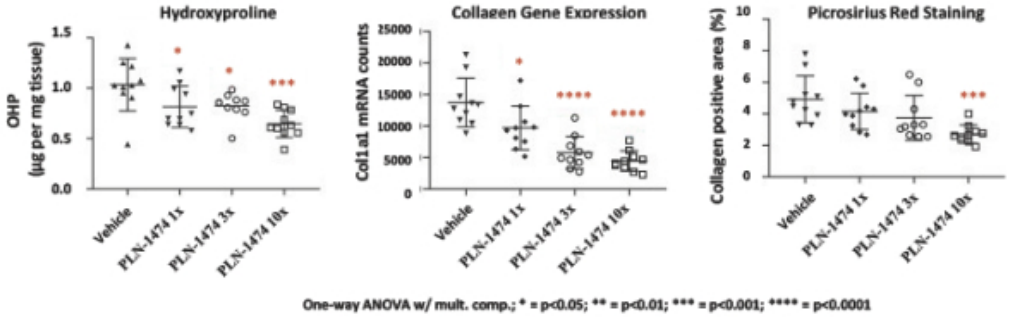
Profibrotic Gene Expression After Treatment with PLN-1474



Treatment with PLN-1474 resulted in decreased expression of a broad set of profibrotic genes in a CDA-HFD mouse NASH liver fibrosis model

PLN-1474 showed dose-dependent reduction of fibrosis in NASH and liver fibrosis mouse models

We tested the ability of PLN-1474 to inhibit fibrosis in a mouse model of NASH induced by a choline-deficient high fat diet. Treatment of these mice for six weeks, beginning at week five of the high fat diet, resulted in a dose-dependent reduction in collagen production as measured by hydroxyproline levels compared to vehicle-treated controls. Similar dose-dependent decreases in the expression of *Col1a1* genes and picrosirius red staining, a histologic marker for fibrosis, were observed after treatment with PLN-1474. Treatment with PLN-1474 also led to decreases in pSMAD3 levels indicating that PLN-1474 was able to block TGF-ß activation.

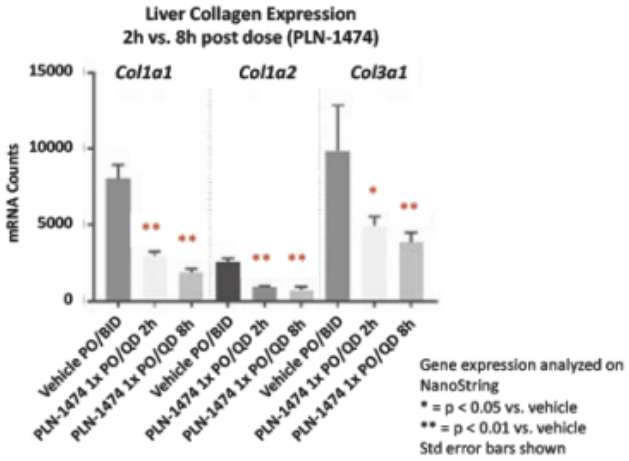


PLN-1474 inhibits fibrosis in NASH fibrosis model

PLN-1474 also inhibited fibrosis in an acute CCl_4 model of liver fibrosis. In this model, liver fibrosis in mice is induced by two weeks of exposure to CCl_4. Treatment with PLN-1474 for one week reduced the

expression of *Col1a1*, C*ol1a2* and *Col3a1* compared to vehicle-treated controls. Treatment with PLN-1474 also reduced TGF-ß signaling to baseline levels as measured by pSMAD3 levels.

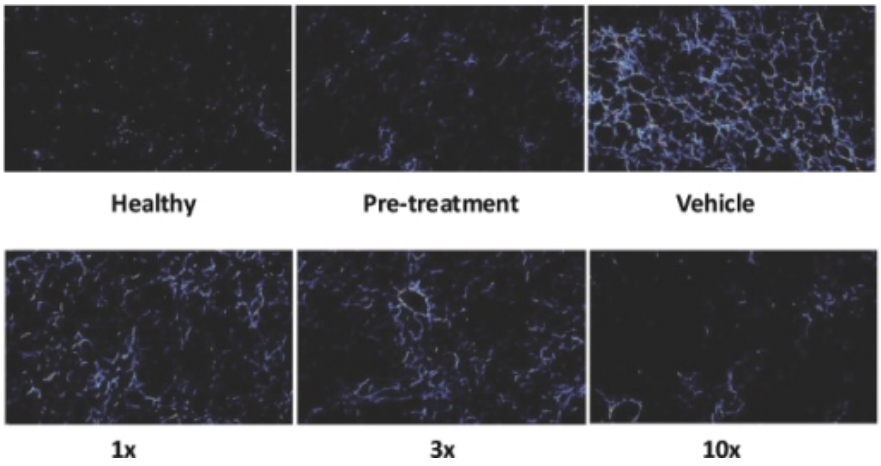
In the chronic version of the CCL_4 model, fibrosis is induced by 21 days of exposure to CCl_4. Treatment of these mice with PLN-1474 resulted in significant reductions in the expression of collagen genes beginning as soon as two hours after dosing. These results suggest that PLN-1474 has the potential to lead to significant and rapid changes in fibrosis even in livers containing extensive and established fibrotic lesions.



PLN-1474 inhibited collagen expression in a chronic CCl_4 liver fibrosis model

PLN-1474 decreased collagen fiber density and characteristics via second-harmonic generation analysis in a NASH fibrosis model

We evaluated three doses of PLN-1474 in a NASH fibrosis mouse model utilizing second-harmonic generation to evaluate the amount of new collagen formation ongoing post-treatment with PLN-1474. We evaluated a range of doses against placebo in a NASH fibrosis model and saw a dose-dependent reduction in collagen fiber density and fibrosis composite score.



PLN-1474 resulted in a dose-dependent decrease in collagen fiber density in a NASH fibrosis model as measured through second-harmonic generation

PLN-1474 potently binds to all conformations of avß1

Similar to our observations with PLN-74809, we have shown that PLN-1474 binds to both the higher-affinity, extended open conformation of integrin avß1 as well as the lower-affinity, bent closed conformation and thus has the potential to block integrin interactions regardless of the state of the receptor.

Planned clinical development of PLN-1474

We are currently enrolling a Phase 1 trial of PLN-1474 in healthy volunteers. This trial will evaluate safety and tolerability as well as PK of PLN-1474. Once the Phase 1 trial is complete, Novartis will take over the program and be responsible for further development of PLN-1474 in NASH associated liver fibrosis.

Applying our fibrosis expertise in developing additional products

We are pursuing potential uses of our existing product candidates, PLN-74809 and PLN-1474, in additional fibrotic indications. We use our precision cut human fibrotic tissue assays in addition to our animal model data to inform our clinical development programs and potentially select additional indications where we think our pipeline candidates could have an effect.

Our mission is to advance the understanding of fibrosis by building a biology-, chemistry- and screening-based engine to drive drug development across the spectrum of fibrotic diseases. While our initial focus is on small-molecule integrin inhibitors in lung and liver fibrosis, we are actively pursuing additional treatment modalities across fibrosis indications in multiple different organs. We have identified other potential non-integrin targets related to TGF-ß signaling as well as other pathways across multiple fibrosis indications, such as

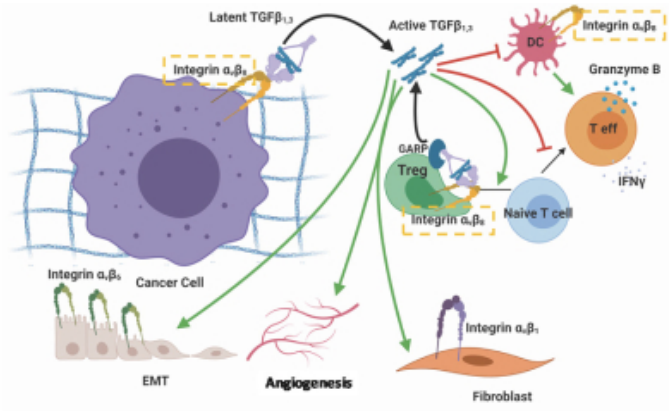
regulators of epithelial-to-mesenchymal transition, a critical process in fibrosis. In addition, while our initial focus is on small-molecule drug candidates, we are agnostic to treatment modalities in the development of our pipeline.

Our oncology program-TGF-ß signaling in the tumor microenvironment

Over the past several years, the checkpoint inhibitor class of immuno-oncology drugs has changed the way many cancers are treated. Checkpoint inhibitors work to block signals that prevent the body's immune system from recognizing tumor cells. By blocking checkpoint signals such as PD-1, these drugs have the ability to sensitize T-cells, allowing them to recognize and kill tumor cells. While checkpoint inhibitors have led to dramatic improvements in survival rates for certain cancer indications, there are still a significant proportion of patients who do not respond to the drugs. Much effort is being devoted to understanding the root causes of checkpoint inhibitor resistance.

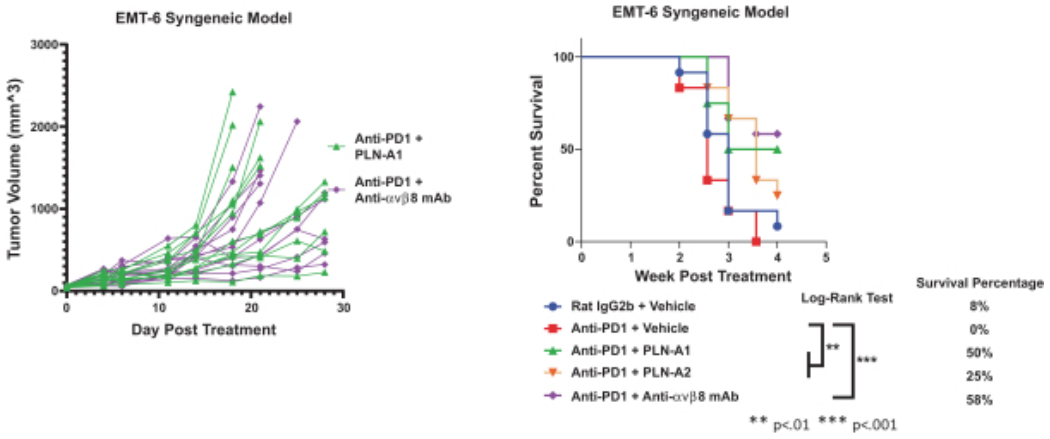
As TGF-ß biology has been elucidated, it has become increasingly understood in the scientific literature that TGF-ß plays an important anti-inflammatory role in the tumor microenvironment. One of TGF-ß's core physiologic roles is an anti-inflammatory effect that it provides in the wound healing process. In the tumor microenvironment, however, certain integrins, such as avß8, can be overexpressed on multiple different cell types, resulting in increased activation and signaling of TGF-ß. This over activation of TGF-ß can lead to a strong anti-inflammatory effect in the tumor microenvironment, resulting in decreased T-cell infiltration and decreased release of pro-inflammatory cytokines such as granzyme B and interferon g. This mechanism is becoming increasingly recognized as a potential cause of the resistance to checkpoint inhibitors such as anti-PD-1 therapies seen in many tumors. We are targeting TGF-ß activating integrins such as avß8 that are upregulated in certain tumors with the goal of removing the anti-inflammatory effect and, ultimately, sensitizing tumors to checkpoint inhibitors. This program has generated positive data in preclinical tumor models and is currently in the lead-optimization phase of development.

- Integrins activate TGF-β on multiple cell types in the tumor micro- environment
- This is thought to lead to immune suppression and resistance to I/O therapies



Integrin Upregulation in the Tumor Microenvironment

We are developing small molecule inhibitors against avß8 as well as other TGF-ß-activating integrins that have been shown to be upregulated in the tumor microenvironment. We have shown in an EMT6 anti-PD-1 resistant tumor mouse model that our small molecule inhibitors of avß8-mediated TGF-ß activation are able to sensitize tumors to anti-PD-1 therapy and extend survival. Additionally, our molecules perform similarly to monoclonal antibodies against the avß8 integrin receptor.



Small Molecule avß8 Inhibitors Enhanced PD-1 Activity in an EMT6 Anti-PD-1 Resistant Mouse Tumor Model

We are currently in lead-optimization stage of our oncology program developing small molecule inhibitors of avß8 targeting multiple potential PD-1 resistant tumor types. We have identified multiple potent and selective molecules and plan to nominate a developmental candidate in 2020.

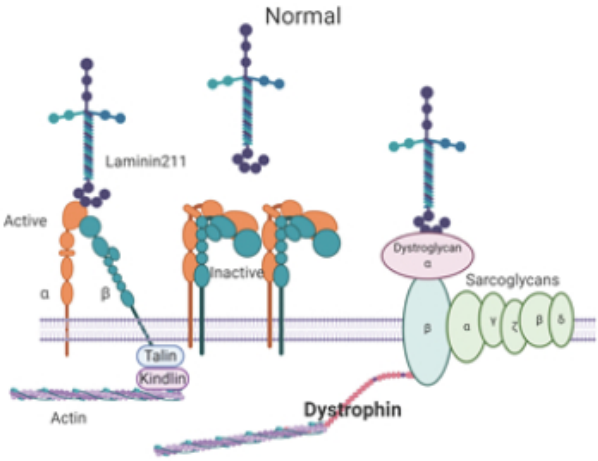
Our Muscular Dystrophy Program

Muscular Dystrophy comprises a group of inherited diseases, all characterized by inborn errors in dystrophin, a protein that anchors muscle cells to the extracellular matrix, or ECM, and facilitates contraction of skeletal muscles. Mutations in the gene that codes for dystrophin can cause the dystrophin protein to be misshapen and ineffective in anchoring the muscle cell to the extracellular matrix. The lack of dystrophin anchoring results in damage to skeletal muscle cells upon contraction. Over time, muscle cells are unable to regenerate, and are eventually replaced by fat and fibrosis, resulting in loss of muscle function. Severe forms of muscular dystrophy cause progressive weakening of the heart and diaphragm, leading to death.

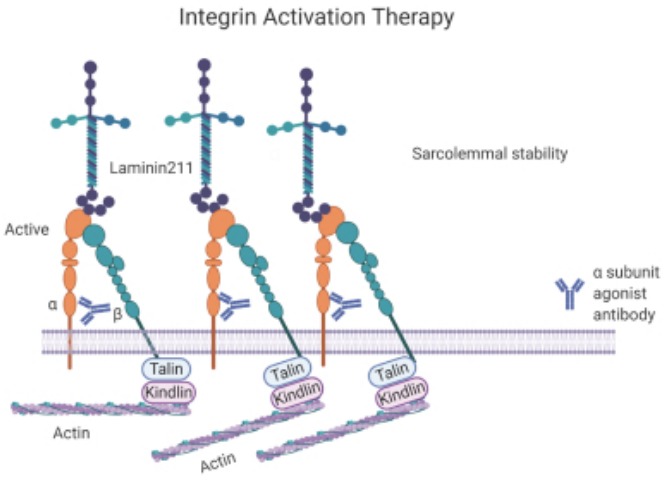
The most common form of muscular dystrophy is Duchenne muscular dystrophy, or DMD, which affects 1 in 3,500 boys worldwide. Disease progression varies, usually presenting with muscle weakness around age four. Most DMD patients need a wheelchair by age 12, with most dying in their 20's. DMD is caused by mutations to the DMD gene, which codes for dystrophin.

Treatment for DMD is mostly focused on mitigating the symptoms. Aggressive management of dilated cardiomyopathy with anti-congestive medications is used, including cardiac transplantation in severe cases. Assistive devices for respiratory complications may be needed, especially at night. The steroid prednisone is given to improve the strength and function of individuals with DMD. Prednisone has been shown to prolong the ability to walk by 2 to 5 years. While a new treatment, etiplirsen, was recently approved in a subset of patients, this remains an area of tremendous unmet medical need. There are a number of novel modalities such as gene therapy and CRISPR being explored as potential treatments for DMD, but they remain years from approval.

We have identified a target integrin receptor that acts as a natural compensatory mechanism that anchors the muscle cell to the ECM in DMD, as well as other types of muscular dystrophy. It is expressed on the surface of skeletal muscle cells and has been shown to be upregulated in patients with muscular dystrophy. The target integrin is able to bind to laminin in the ECM and serve as a substitute for the dystrophin complex that normally holds muscle cells to the ECM. This compensatory mechanism serves to stabilize the muscle cell membrane, which decreases muscle damage upon contraction. Moreover, mutations in this integrin, or in the laminin protein that it binds to, have been reported, and result in congenital myopathies with phenotypes similar to those of muscular dystrophy. Like other integrins, our integrin target can exist in various conformations, some of which are active, and others that are not. The natural compensatory ability of the target is limited by the number of integrin receptors in the active conformation at any given time.

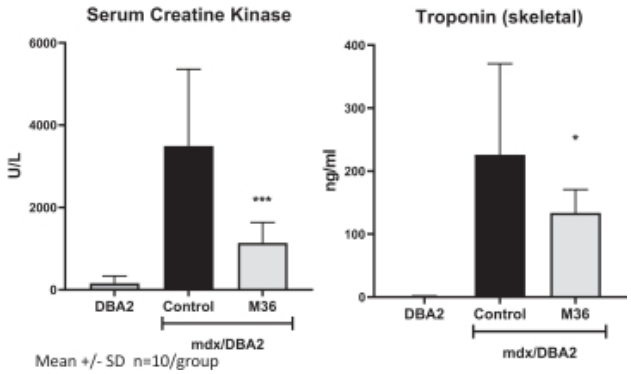


Our muscular dystrophy program utilizes an allosteric, agonistic, monoclonal antibody which binds to the alpha subunit of the target integrin and stabilizes it in its active conformation. By maximizing the number of target integrins that are active, the mAb is designed to increase the overall binding of the muscle cell membrane to the ECM and to stabilize the membrane.



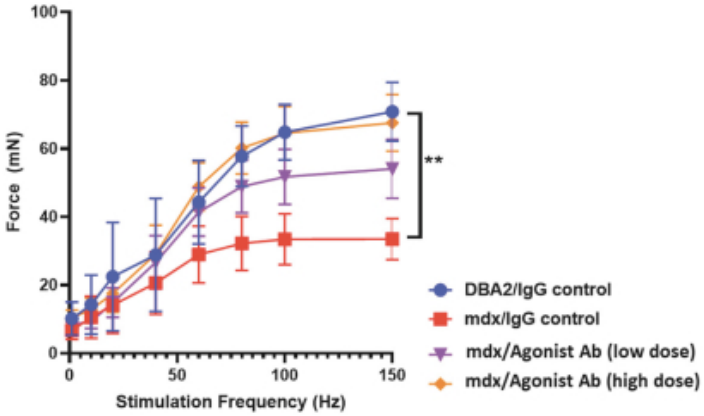
Allosteric agonistic monoclonal antibody binds to the inactive integrin inducing conformational change increasing laminin binding

We have developed a humanized antibody that is highly potent and selective for the alpha subunit of the target integrin. Our mAb candidate has been tested in an mdx /DBA2 DMD mouse model where it showed significantly decreased muscle damage as measured through clinical biomarkers including serum creatinine kinase and troponin.



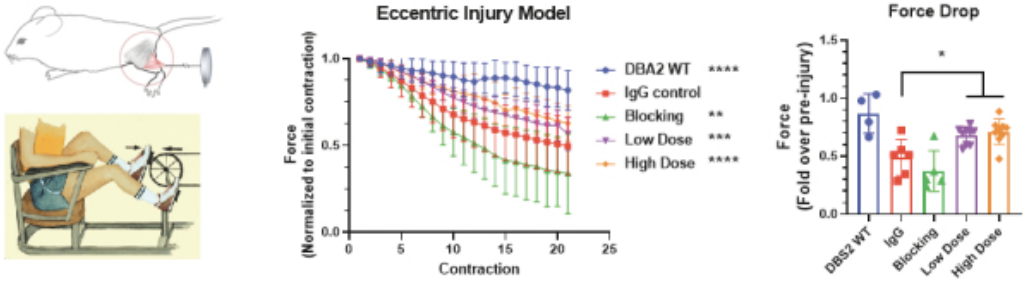
Treatment with mAb resulted in decreased muscle damage in a mdx/DBA2 mouse model

In addition to protecting against muscle damage, the antibody showed an increase in diaphragm contractility in the mice tested. The antibody was able to return diaphragm contractility to near the same level as the wild type controls. This is crucial, given that the primary cause of death in patients with muscular dystrophy is cardiopulmonary failure resulting from progressive wasting of cardiac and respiratory muscles.



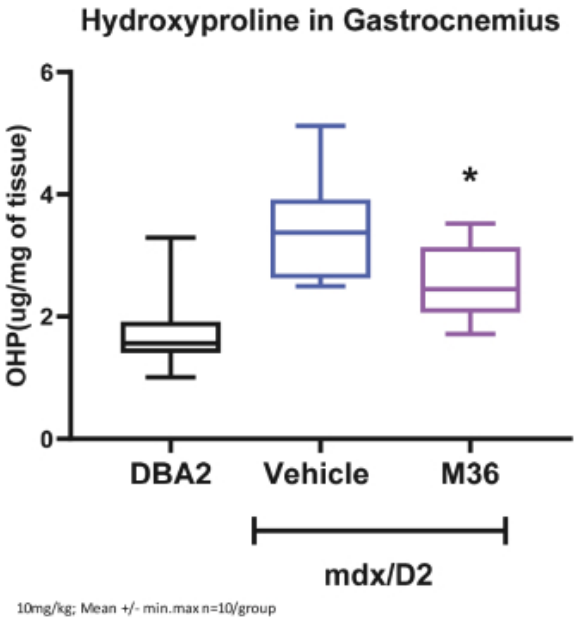
Agonistic mAb restored diaphragm force back to the same level as wild type control

The antibody protected the gastrocnemius muscle from eccentric injury in which the muscle loses contractile force over a series of contractions. Interestingly, mice treated with an antibody that blocks the integrin receptor showed an increase in eccentric injury.



Integrin Agonistic Antibody Protected Gastrocnemius Muscle from Eccentric Injury While Agonistic Antibody Increased Injury

Lastly, our mAb showed a reduction in hydroxyproline levels in the gastrocnemius muscles of the test mice, suggesting less fibrosis in the muscles, possibly as a result of decreased muscle damage.



Agonistic mAb significantly reduced collagen content in gastrocnemius muscles of treated mice

We have nominated a development candidate and are currently conducting CMC scale-up activities. We plan to initiate IND enabling studies in 2021.

Competition

The biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies, strong competition and an emphasis on proprietary products. While we believe that our technology, knowledge, experience and scientific personnel provide us with competitive advantages, we face substantial competition from many different sources, including larger pharmaceutical companies with greater resources. Smaller specialty biotechnology and biopharmaceutical companies, academic research institutions, governmental agencies, as well as public and private institutions are also potential sources of competitive products and technologies, including through collaborative arrangements with large and established biopharmaceutical companies. We also face competition in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and enrolling patients for clinical trials, and acquiring technologies complementary to, or necessary for, our programs. We believe that the key competitive factors affecting the success of any of our product candidates will include efficacy, safety profile, convenience, method of administration, cost, level of promotional activity and intellectual property protection.

There are currently a number of companies targeting the treatment of various fibrosis indications through inhibiting various parts of the TGF-ß pathway, including AbbVie Inc., Gilead Sciences, Inc., Indalo Therapeutics, Inc., FibroGen Inc., Galapagos NV, Bristol Myers Squibb Co., or BMS, Biogen Inc., and Novartis AG. However, we know of no other companies currently in clinical development with a bioavailable small-molecule, selective integrin inhibitor.

Although our novel approach is unique from most other existing or investigational therapies across the disease areas where we are focusing our development, we will need to compete with currently approved therapies, and potentially those in currently in development if they are approved. We are aware of several marketed and investigational products in our leading disease areas, including but not limited to:

- *IPF:* There are currently two approved products for the treatment of IPF; Esbriet, marketed by Roche Holding AG, and Ofev, marketed by Boehringer Ingelheim GmbH. Other companies currently developing product candidates in IPF include AbbVie, Galapagos, Indalo, Kadmon Holdings, Inc., Biogen, Prometic Life Sciences, Inc. and Promedior, Inc.
- *PSC*: There are currently no approved therapies for the treatment of PSC. Companies currently developing product candidates in PSC include Gilead, Allergan plc, NGM and Intercept Pharmaceuticals, Inc..
- *NASH:* There are currently no FDA approved therapies for the treatment of NASH. There are a number of companies developing product candidates for the treatment of NASH including Intercept, Pfizer Inc., Gilead, Allergan, Novartis, AstraZeneca plc, Eli Lilly & Company, GlaxoSmithKline plc, Amgen, Inc., BMS, Johnson & Johnson, Merck & Co., Inc., Roche, Sanofi S.A., Takeda Pharmaceuticals, Novo Nordisk, Genfit SA, Madrigal Pharmaceuticals, Inc., Viking Therapeutics, Inc., Cirius Therapeutics, Inc., NGM, Akero Therapeutics, Inc., Conatus Pharmaceuticals Inc. and Metacrine, Inc.. Most of the drugs currently in development for NASH are focused on decreasing liver fat or improving liver inflammation as opposed to direct liver anti-fibrotic approaches.

The availability of reimbursement from government and other third-party payors will also significantly affect the pricing and competitiveness of our product candidates, if approved for marketing. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we do, which could result in our competitors establishing a strong market position before we are able to enter the market.

Intellectual Property

Overview

We strive to protect and enhance the proprietary technology, inventions, and improvements that are commercially important to the development of our business, including seeking, maintaining, and defending patent rights, whether developed internally or licensed from third parties. We also rely on trade secrets relating to our proprietary technology platform and on know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen, and maintain our proprietary position in the field of fibrosis that may be important for the development of our business. We additionally may rely on regulatory protection afforded through data exclusivity, market exclusivity, and patent term extensions, where available.

Our commercial success may depend in part on our ability to: obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business; defend and enforce our patents; preserve the confidentiality of our trade secrets; and operate without infringing the valid enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making, using, selling, offering to sell, or importing our products may depend on the extent to which we have rights under valid and enforceable licenses, patents, or trade secrets that cover these activities. In some cases, enforcement of these rights may depend on third party licensors. With respect to both licensed and company-owned intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our commercial products and methods of manufacturing the same.

As of March 1, 2020, we own or license over 30 pending patent applications, worldwide, including in the United States and corresponding foreign patent applications. At least four pending patent applications have been filed in the United States or corresponding foreign jurisdictions by or on behalf of the Regents of the University

of California, which have granted us exclusive license rights to the technology. To date, two patents have issued to us or to our licensors. Our policy is to file patent applications to protect technology, inventions and improvements to inventions that are commercially important to the development of our business. We seek United States and foreign patent protection for a variety of technologies, including: research compounds and methods, candidate compounds and antibodies for modulating the activity of integrins, methods for treating diseases of interest, and methods for manufacturing our products. We also intend to seek patent protection or rely upon trade secret rights to protect other technologies that may be used to discover and validate targets and that may be used to identify and develop novel products. We seek protection, in part, through confidentiality and proprietary information agreements. We are a party to various other license agreements that give us rights to use specific technologies in our research and development.

Company Owned IP

We own multiple families of patent applications that are directed to small-molecule compositions capable of modulating integrins and methods for treating or preventing diseases associated with integrins. Certain applications in these families relate to our PLN-1474 and PLN-74809 small-molecule product candidates, backup compounds and structural analogs, various unit dosages, dosing regimens, and routes of administration. We are also pursuing innovative ways to modulate integrin function using antibodies, and have one pending patent application to that technology in the United States. Patents that may issue from these company owned applications are generally expected to expire between the years 2037 to 2040, subject to possible patent term adjustment and/or extension.

Licensed IP

We have obtained an exclusive license from the Regents of the University of California to two patent families, which are expected to expire in 2034 and 2036, respectively. Included in these families are two issued U.S. patents with claims directed to small-molecule integrin inhibitors and methods of using such inhibitors for treating fibrotic and other diseases, as well as related patent applications that are pending in Canada and Europe. The molecules currently being developed by us as product candidates are not within the scope of the agreement with the Regents of the University of California.

Trademark Protection

We have two registered U.S. trademarks for use in connection with our products. We may pursue additional registrations for future products in markets of interest.

Trade Secret Protection

Finally, we may rely, in some circumstances, on trade secrets to protect our technology. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors, and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems.

In addition to the above, we have established expertise and development capabilities focused in the areas of preclinical research and development, manufacturing and manufacturing process development, quality control, quality assurance, regulatory affairs, and clinical trial design and implementation. We believe that our focus and expertise will help us develop products based on our proprietary intellectual property.

License Agreements

Novartis Collaboration and License Agreement

In October 2019, we entered into a collaboration and license agreement, or the Novartis Agreement, with Novartis Institutes for Biomedical Research, Inc., or Novartis, for the research, development and

commercialization of PLN-1474, and up to three additional integrin targets, or the Research Targets. Under the terms of the Novartis Agreement, we will be responsible for the clinical development and manufacture of PLN-1474 through the first-in-human study and Novartis will then be responsible for all future development, manufacturing and commercialization.

During the research term, which shall initially be three years and extendable, we will collaborate, through a joint steering committee, with Novartis on up to three separate research programs, to biologically validate certain potential Research Targets and identify and synthesize potential research compounds for each Research Target in accordance with the applicable research plan. We will be responsible for advancing product candidates targeting selected Research Targets to development candidate stage and Novartis will then be responsible for all future development, manufacturing and commercialization.

We have also granted to Novartis an (i) exclusive (even as to us), transferable, sublicensable license to certain of our technology to commercialize licensed products in the field and (ii) co-exclusive (with us), transferable, sublicensable license to research, develop and manufacture certain licensed compounds and licensed products for disease treatment worldwide. Upon the completion of the first Phase 1 study, such co-exclusive license shall become exclusive for Novartis.

In addition, pursuant to the Novartis Agreement, we have granted to Novartis and its affiliates an (i) exclusive (even as to us), transferable, sublicensable license to certain of our technology to commercialize certain research products in the field and (ii) a coexclusive (with us), transferable, sublicensable license to develop, manufacture, and commercialize certain selected research compounds and research products for disease treatment worldwide. Upon the selection of relevant candidate small molecule compound selective modulator, such co-exclusive license shall become exclusive for Novartis.

Novartis paid us a nonrefundable, non-creditable one-time payment of $50.0 million as an initial license fee in October 2019. Novartis will also pay us a certain specified target validation fee for each candidate target that achieves target validation and is deemed a research target, for up to three candidate targets.

Novartis shall also pay us certain development and commercialization milestone payments, in total up to $416.0 million under the agreement.

Novartis shall also pay us tiered royalties, on a product-by-product basis based on annual nets sales of products at percentages ranging from high-single digits to low-double digits of the applicable licensed products and mid-single digits to high-single digits for the applicable research products.

Unless earlier terminated, the Novartis Agreement will expire upon the expiration of all royalty obligations. The royalty period will expire on a product-by-product and country-by-country basis upon the later of (i) ten years from the first commercial sale, (ii) the expiration of all regulatory or data exclusivity and (iii) the expiration of the last-to-expire valid patent claim. Novartis has the right to terminate the Novartis Agreement for convenience on a target-by-target basis upon sixty (60) days' prior written notice, so long as such right is exercised prior to the first commercial sale of any licensed product or research product with respect to the applicable target. After the first commercial sale, Novartis has the right to terminate the Novartis Agreement for convenience on a target-by-target basis upon six (6) months' prior written notice. We may not terminate the agreement for convenience. Either we or Novartis may terminate the Novartis Agreement if the other party is in material breach and such breach is not cured within the specified cure period. In addition, either we or Novartis may terminate the Novartis Agreement in the event of specified insolvency events involving the other party. If we terminate the agreement as a result of Novartis' uncured material breach or Novartis terminates at will, we retain a royalty-bearing, non-exclusive license to certain Novartis technology in order to develop, manufacture and commercialize certain compounds and products as set forth in the Novartis Agreement, subject to certain conditions.

Adimab Collaboration Agreement

In October 2018, we entered into a collaboration agreement, or the Adimab Agreement, with Adimab, LLC, or Adimab, for the discovery and optimization of proprietary antibodies as potential therapeutic product candidates. Under the Adimab Agreement, we have initially agreed with Adimab to collaborate on an initial research program. In addition, we may select up to three additional biological targets against which Adimab will use its technology to research and develop antibodies pursuant to a mutually agreed upon research plan.

During the ongoing research period and for a specified evaluation period thereafter, or the Evaluation Term, Adimab will grant us a worldwide, non-exclusive license to Adimab's technology to perform our responsibilities under the specified research plan and to evaluate the program antibodies to determine, at our election, how to proceed with any antibodies discovered as a result of such research program.

On a research program by research program basis, Adimab has granted to us an exclusive option to acquire the rights to up to a certain specified number of discovered antibodies for development and commercialization as biopharmaceutical products. We have also granted Adimab a non-exclusive, non-sublicensable license under our technology during each research program, and during the relevant Evaluation Term solely to perform Adimab's responsibilities under such research plan.

Upon execution of the Adimab Agreement we paid to Adimab a one-time, non-creditable non-refundable technology access fee in the low-five figures. For each agreed upon research program that is commenced, we are required to pay Adimab an agreed upon rate for its full-time employees during a given research program, a specified discovery delivery fee, and an optimization completion fee in the low-six figures.

If we choose to exercise our option with respect to a specific research program, we are required to pay Adimab a non-creditable, non-refundable high six-figure option exercise fee, payable in installments. If we exercise our option with respect to more than the specified number of antibodies resulting from such research program, we are obligated to make an additional specified payment for each additional optioned antibody. To date, we have not exercised any options under the Adimab Agreement.

We are required to make certain milestone payments to Adimab upon the achievement of certain clinical and regulatory milestone events in the development of therapeutic products and diagnostic products which use the antibodies we have obtained pursuant to our exclusive option. The milestone payments total approximately $12 million for each therapeutic product. For any product that is commercialized pursuant to the Adimab Agreement, we are required to pay Adimab low single digit percentage tiered royalty payments based on annual aggregate worldwide net sales thresholds for such products, subject to reduction as specified in the Adimab Agreement. Royalty terms with respect to each product will expire on a country-by-country basis upon the later of (a) ten years after the first commercial sale of such product in such country and (b) the expiration of the last patent related to any antibody acquired by us pursuant to our option from a specified research program.

Under the Adimab Agreement, we are required to use commercially reasonable efforts to conduct certain research to discover and optimize antibodies directed against the targets that we select. The Adimab Agreement will expire unless earlier terminated (a) in the event that we do not exercise any option pursuant to a research program, upon the conclusion of the last to expire Evaluation Term, or (b) if we do exercise an option, on the expiration of the last royalty term for a product in a particular country. We have the right to terminate the Adimab Agreement at any time upon advance written notice to Adimab. In addition, subject to certain conditions, either we or Adimab may terminate the Adimab Agreement if the other party commits a material breach of the agreement and fails to cure such breach within a specified cure period after written notice is provided. Upon expiration or termination of the Adimab Agreement, all licenses granted to us on a product-by-product and country-by-country basis will continue on a non-exclusive, fully-paid, worldwide, royalty-free, irrevocable basis.

Manufacturing

Our product candidates, PLN-74809 and PLN-1474, are small molecule inhibitors amenable to standard formulation technologies. We have validated the synthetic process and manufactured large kilogram quantities similar to the campaigns that will be required to provide drug product for our anticipated Phase 2a clinical trials. The manufacturing process of the drug substance for such product candidates is robust and accessed from readily available starting materials. The synthetic route is amenable to large-scale production and does not require unusual equipment or handling during the manufacturing process. We have obtained an adequate supply chain of the drug substance for PLN-74809 and PLN-1474 from our first North American contract manufacturing organization, or CMO, to satisfy both our clinical and preclinical requirements in 2019. We rely on a sole supplier for the manufacture of PLN-74809. We are engaging secondary raw material suppliers in addition to North American and European CMOs to mitigate global supply chain risk and ensure continuity of supply of drug substance. To maximize flexibility, we have established relationships with non-overlapping vendors for manufacturing of not only raw materials but also drug substance.

We currently rely on third-party manufacturers for the GMP production of larger quantities of our drug product candidates for our clinical trials. Our internal personnel have extensive cGMP manufacturing experience in order to ensure seamless technology transfer and to manage the manufacturing and development processes conducted by third-party manufacturers. Our agreements with third-party manufacturers include confidentiality and intellectual property provisions as well as routine quality audits. In some instances, we have reserved resources from third-party manufacturers for the development and manufacture of our product candidates for near-term clinical programs.

We do not own or operate facilities for clinical drug manufacturing, storage, distribution or quality testing. Currently, all of our clinical manufacturing is outsourced to third-party manufacturers. As our development programs expand and we build new process efficiencies, we expect to continually evaluate this strategy with the objective of satisfying demand for our clinical trials and, if approved, the manufacture, sale and distribution of commercial products.

Government Regulation

The FDA and comparable regulatory authorities in state and local jurisdictions and in other countries impose substantial and burdensome requirements upon companies involved in the clinical development, manufacture, marketing and distribution of drugs, such as those we are developing. These agencies and other federal, state and local entities regulate, among other things, the research and development, testing, manufacture, quality control, safety, effectiveness, labeling, storage, record keeping, approval, advertising and promotion, distribution, post-approval monitoring and reporting, sampling and export and import of our product candidates.

U.S. government regulation of drug products

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with applicable federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to a variety of administrative or judicial sanctions, such as the FDA's refusal to approve pending New Drug Applications, or NDAs, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties.

The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- Completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;

- Submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;
- Approval by an independent institutional review board, or IRB, at each clinical site before each trial may be initiated;
- Performance of adequate and well-controlled human clinical trials in accordance with good clinical practice, or GCP, requirements to establish the safety and efficacy of the proposed drug product for each indication;
- Submission to the FDA of an NDA;
- Satisfactory completion of an FDA advisory committee review, if applicable;
- Satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with current good manufacturing practice, or cGMP, requirements and to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- Satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data;
- Payment of user fees and securing FDA approval of the NDA; and
- Compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and the potential requirement to conduct post-approval studies.

Preclinical studies

Preclinical studies include laboratory evaluation of product chemistry, toxicity and formulation, as well as animal studies to assess potential safety and efficacy. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data and any available clinical data or literature, among other things, to the FDA as part of an IND. Some preclinical testing may continue even after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to initiate.

Clinical trials

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, an IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it initiates at that institution. Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their www.clinicaltrials.gov website.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- Phase 1: The drug is initially introduced into healthy human subjects or patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness.

- Phase 2: The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- Phase 3: The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product, and to provide adequate information for the labeling of the product.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Phase 1, Phase 2 and Phase 3 trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

Marketing approval

Assuming successful completion of the required clinical testing, the results of the preclinical and clinical studies, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the product for one or more indications. In most cases, the submission of an NDA is subject to a substantial application user fee. Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has a goal of ten months from the date of "filing" of a standard NDA, for a new molecular entity to review and act on the submission. This review typically takes twelve months from the date the NDA is submitted to FDA because the FDA has approximately two months to make a "filing" decision.

In addition, under the Pediatric Research Equity Act of 2003, or PREA, as amended and reauthorized, certain NDAs or supplements to an NDA must contain data that are adequate to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. An Agreed Initial Pediatric Study Plan requesting a waiver from the requirement to conduct clinical studies has been submitted to the FDA.

The FDA also may require submission of a risk evaluation and mitigation strategy, or REMS, plan to ensure that the benefits of the drug outweigh its risks. The REMS plan could include medication guides, physician communication plans, assessment plans, and/or elements to assure safe use, such as restricted distribution methods, patient registries, or other risk minimization tools.

The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA reviews an NDA to determine, among other things, whether the drug is safe and effective and whether the facility in which it is manufactured, processed, packaged or held meets standards designed to assure the product's continued safety, quality and purity.

The FDA may refer an application for a novel drug to an advisory committee. An advisory committee is a panel of independent experts, including clinicians and other scientific experts, which reviews, evaluates and

provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA may inspect one or more clinical trial sites to assure compliance with GCP requirements.

After evaluating the NDA and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a complete response letter. A complete response letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA and may require additional clinical or preclinical testing in order for FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

Even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution and use restrictions or other risk management mechanisms under a REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes, and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Orphan drug designation and exclusivity

Under the Orphan Drug Act, the FDA may designate a drug product as an "orphan drug" if it is intended to treat a rare disease or condition (generally meaning that it affects fewer than 200,000 individuals in the United States, or more in cases in which there is no reasonable expectation that the cost of developing and making a drug product available in the United States for treatment of the disease or condition will be recovered from sales of the product). A company must request orphan product designation before submitting an NDA. If the request is granted, the FDA will disclose the identity of the therapeutic agent and its potential use. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product with orphan status receives the first FDA approval for the disease or condition for which it has such designation or for a select indication or use within the rare disease or condition for which it was designated, the product generally will be receiving orphan product exclusivity. Orphan product exclusivity means that the FDA may not approve any other applications for the same product for the same indication for seven years, except in certain limited circumstances. If a drug or drug product designated as an orphan product ultimately receives marketing approval for an indication broader than what was designated in its orphan product application, it may not be entitled to exclusivity. Orphan exclusivity will not bar approval of another product under certain circumstances, including if a subsequent product with the same active ingredient for the same indication is shown to be clinically superior to the approved product on the basis of greater efficacy or safety, or providing a major contribution to patient care, or if the company with orphan drug exclusivity is not able to meet market demand. Further, the FDA may approve more than one product for the same orphan indication or disease as long as the

products contain different active ingredients. Moreover, competitors may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity.

U.S. marketing exclusivity

Market exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an Abbreviated New Drug Application, or ANDA, or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of marketing exclusivity for a NDA, 505(b)(2) NDA or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example, new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions of use associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for the original non-modified version of the drug. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing regulatory exclusivity periods. This six-month exclusivity may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued “Written Request” for such a trial.

Post-approval requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims are subject to prior FDA review and approval. There are continuing, annual user fee requirements for any marketed products and the establishments where such products are manufactured, as well as new application fees for supplemental applications with clinical data.

The FDA may impose a number of post-approval requirements as a condition of approval of an NDA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product’s safety and effectiveness after commercialization.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP requirements and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval of a drug is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in mandatory revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- Restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- Fines, warning letters or holds on post-approval clinical trials;
- Refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product approvals;
- Product seizure or detention, or refusal to permit the import or export of products; and
- Injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted by a manufacturer and any third parties acting on behalf of a manufacturer only for the approved indications and in a manner consistent with the approved label for the product. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability. On May 10, 2019, the Centers for Medicare and Medicaid Services announced a new pricing transparency rule, which was set to take effect on July 9, 2019. The rule would have required direct-to-consumer television advertisements for prescription drugs and biological products for which reimbursement is available, directly or indirectly, through or under Medicare or Medicaid to include the list price of that product, except for a prescription drug or biological product that has a list price of less than $35 per month for a 30-day supply or typical course of treatment. The final rule was vacated by the D.C. District Court prior to taking effect. Several states have adopted price transparency requirements and those as well as any future federal price transparency requirements that may be implemented in the future could have a negative effect on our business.

Other healthcare laws

Healthcare providers, physicians, and third party payors play a primary role in the recommendation and prescription of drug products for which we obtain marketing approval. Arrangements with third party payors, healthcare providers and physicians, in connection with the clinical research, sales, marketing and promotion of products, once approved, and related activities, may expose a pharmaceutical manufacturer to broadly applicable fraud and abuse and other healthcare laws and regulations. In the United States, these laws include, without limitation, state and federal anti- kickback, false claims, physician transparency, and patient data privacy and security laws and regulations, including but not limited to those described below:

- the federal Anti-Kickback Statute, or AKS, which makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf) to knowingly and willfully solicit, receive, offer or pay any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, that is intended to induce or reward, referrals including the purchase recommendation, order or prescription of a particular drug for which payment may be made under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act, or FCA;

- the federal civil and criminal false claims laws, including the FCA, which can be enforced through "qui tam" or "whistleblower" actions, and civil monetary penalty laws, which impose criminal and civil penalties against individuals or entities for, among other things, knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid, or other federal health care programs that are false or fraudulent; knowingly making or causing a false statement material to a false or fraudulent claim or an obligation to pay or transmit money or property to the federal government; or knowingly concealing or knowingly and improperly avoiding or decreasing such an obligation. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of these statutes or specific intent to violate them in order to have committed a violation.
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the creation, use, receipt, maintenance or disclosure of individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information;
- the federal Physician Payments Sunshine Act, created under Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, the ACA, and its implementing regulations, which require manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program to report annually to the Centers for Medicare and Medicaid Services, or CMS, under the Open Payments Program, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made during the previous year to certain non-physician providers such as physician assistants and nurse practitioners; and
- analogous state and foreign laws and regulations, such as state and foreign anti-kickback, false claims, consumer protection and unfair competition laws which may apply to pharmaceutical business practices, including but not limited to, research, distribution, sales and marketing arrangements as well as submitting claims involving healthcare items or services reimbursed by any third-party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to file reports with states regarding pricing and marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities; state and local laws requiring the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of a pharmaceutical manufacturer's business activities could be subject to challenge under one or more of such laws. Efforts to ensure that business arrangements comply with applicable

healthcare laws involve substantial costs. It is possible that governmental and enforcement authorities will conclude that a pharmaceutical manufacturer's business practices do not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. If any such actions are instituted against a pharmaceutical manufacturer, and it is not successful in defending itself or asserting its rights, those actions could have a significant impact on its business, including the imposition of significant civil, criminal and administrative penalties, damages, disgorgement, imprisonment, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, reporting obligations and oversight if we become subject to integrity and oversight agreements to resolve allegations of non-compliance, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of operations, any of which could adversely affect a pharmaceutical manufacturer's ability to operate its business and the results of operations. In addition, commercialization of any drug product outside the United States will also likely be subject to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

In the U.S., numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws, govern the collection, use, disclosure, and protection of health-related and other personal information. For example, in June 2018, the State of California enacted the California Consumer Privacy Act of 2018 (the "CCPA"), which came into effect on January 1, 2020 and provides new data privacy rights for consumers and new operational requirements for companies, which may increase our compliance costs and potential liability. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. While there is currently an exception for protected health information that is subject to HIPAA and clinical trial regulations, as currently written, the CCPA may impact certain of our business activities. The CCPA could mark the beginning of a trend toward more stringent state privacy legislation in the U.S., which could increase our potential liability and adversely affect our business.

In the event we decide to conduct clinical trials or continue to enroll subjects in our ongoing or future clinical trials, we may be subject to additional privacy restrictions. The collection, use, storage, disclosure, transfer, or other processing of personal data regarding individuals in the European Economic Area, or EEA, including personal health data, is subject to the EU General Data Protection Regulation, or GDPR, which became effective on May 25, 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR also imposes strict rules on the transfer of personal data to countries outside the EEA, including the United States, and permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR includes restrictions on cross-border data transfers. The GDPR may increase our responsibility and liability in relation to personal data that we process where such processing is subject to the GDPR, and we may be required to put in place additional mechanisms to ensure compliance with the GDPR, including as implemented by individual countries. Compliance with the GDPR will be a rigorous and time-intensive process that may increase our cost of doing business or require us to change our business practices, and despite those efforts, there is a risk that we may be subject to fines and penalties, litigation, and reputational harm in connection with our European activities. Further, the United Kingdom's decision to leave the EU, often referred to as Brexit, has created uncertainty with regard to data protection regulation in the United Kingdom. In particular, it is unclear how data transfers to and from the United Kingdom will be regulated now that the United Kingdom has left the EU.

Current and future healthcare reform legislation

In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory changes to the health care system. In particular, in 2010 the ACA was enacted, which, among other things, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate Program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjected manufacturers to new annual fees and taxes for certain branded prescription drugs, and provided incentives to programs that increase the federal government's comparative effectiveness research.

There remain judicial, administrative, executive, and legislative challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case, and has allotted one hour for oral arguments, which are expected to occur in the fall. In addition, the Trump Administration has issued various Executive Orders which eliminated cost sharing subsidies and various provisions that would impose a fiscal burden on states or a cost, fee, tax, penalty or regulatory burden on individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. Additionally, Congress has introduced several pieces of legislation aimed at significantly revising or repealing the ACA. It is unclear whether the ACA will be overturned, repealed, replaced, or further amended. We cannot predict what affect further changes to the ACA would have on our business.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in 2013, and, due to subsequent legislative amendments, will remain in effect through 2029 unless additional Congressional action is taken. However, the Medicare sequester reductions under the Budget Control Act of 2011 will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. The American Taxpayer Relief Act of 2012 further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. The Bipartisan Budget Act of 2018, also amended the ACA, effective January 1, 2019, by increasing the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and closing the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole".

Additionally, there has been heightened governmental scrutiny in the United States of pharmaceutical pricing practices in light of the rising cost of prescription drugs and biologics. At the federal level, the U.S. Presidential administration's budget proposal for the fiscal year 2021 includes a $135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. On March 10, 2020, the Trump administration sent "principles" for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Moreover, the U.S. Presidential administration previously released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contained proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their

products and reduce the out of pocket costs of drug products paid by consumers. Although a number of these and other measures may require additional authorization to become effective, Congress and the U.S. Presidential administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payers. In addition, individual states in the United States have also increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Legislative and regulatory proposals, and enactment of laws, at the foreign, federal and state levels, directed at containing or lowering the cost of healthcare, will continue into the future.

Rest of World Regulation

For other countries outside of the European Union and the United States, such as countries in Eastern Europe, Latin America or Asia, the requirements governing product development, the conduct of clinical trials, manufacturing, distribution, marketing approval, product licensing, pricing and reimbursement vary from country to country. Additionally, clinical trials must be conducted in accordance with GCP requirements and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Additionally, to the extent that any of our product candidates, once approved, are sold in a foreign country, we may be subject to applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or other transfers of value to healthcare professionals.

Coverage and reimbursement

Successful commercialization of new drug products depends in part on the extent to which reimbursement for those drug products will be available from government health administration authorities, private health insurers, and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drug products they will pay for and establish reimbursement levels. The availability and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford a drug product. Sales of drug products depend substantially, both domestically and abroad, on the extent to which the costs of drugs products are paid for by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular drug products. In many countries, the prices of drug products are subject to varying price control mechanisms as part of national health systems. In general, the prices of drug products under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for drug products, but monitor and control company profits. Accordingly, in markets outside the United States, the reimbursement for drug products may be reduced compared with the United States.

In the United States, the principal decisions about reimbursement for new drug products are typically made by CMS, an agency within the HHS. CMS decides whether and to what extent a new drug product will be

covered and reimbursed under Medicare, and private payors tend to follow CMS to a substantial degree. However, no uniform policy of coverage and reimbursement for drug products exists among third-party payors and coverage and reimbursement levels for drug products can differ significantly from payor to payor.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs. While all Medicare drug plans must give at least a standard level of coverage set by Medicare, Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each Part D prescription drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for drugs for which we obtain marketing approval. Any negotiated prices for any of our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors.

For a drug product to receive federal reimbursement under the Medicaid or Medicare Part B programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the average manufacturer price, or AMP, and Medicaid rebate amounts reported by the manufacturer. As of 2010, the ACA expanded the types of entities eligible to receive discounted 340B pricing, although under the current state of the law these newly eligible entities (with the exception of children’s hospitals) will not be eligible to receive discounted 340B pricing on orphan drugs. As 340B drug pricing is determined based on average manufacturer price, or AMP, and Medicaid rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discount to increase. The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. The plan for the research was published in 2012 by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures are made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear what effect, if any, the research will have on the sales of our drug candidates, if any such drug or the condition that they are intended to treat are the subject of a trial. It is also possible that comparative effectiveness research demonstrating benefits in a competitor’s drug could adversely affect the sales of our drug candidate. If third-party payors do not consider our drugs to be cost-effective compared to other available therapies, they may not cover our drugs after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our drugs on a profitable basis.

These laws, and future state and federal healthcare reform measures may be adopted in the future, any of which may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

Outside of the United States, the pricing of pharmaceutical products and medical devices is subject to governmental control in many countries. For example, in the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost effectiveness of a particular therapy to currently available therapies or so-called health technology assessments, in order to obtain reimbursement or pricing approval. Other countries may allow

companies to fix their own prices for products, but monitor and control product volumes and issue guidance to physicians to limit prescriptions. Efforts to control prices and utilization of pharmaceutical products and medical devices will likely continue as countries attempt to manage healthcare expenditures.

Employees

As of December 31, 2019, we had 62 full-time employees, including 21 with Ph.D. or M.D. degrees and 37 are engaged in research and development activities. None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Facilities

We lease a facility containing 32,974 square feet of laboratory and office space, which is located at 260 Littlefield Avenue, South San Francisco, California 94080. The lease expires on February 28, 2025. We believe that our current facilities are sufficient to meet our current and near-term needs and that, should it be needed, suitable additional space will be available.

Legal Proceedings

As of the date of this prospectus, we are not party to any material legal matters or claims. We may become party to legal matters and claims arising in the ordinary course of business. We cannot predict the outcome of any such legal matters or claims, and despite the potential outcomes, the existence thereof may have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

MANAGEMENT

Executive Officers and Directors

The following table sets forth certain information about our executive officers and directors, including their ages as of March 1, 2020.

Name	Age	Position(s)
Executive Officers:		
Bernard Coulie, M.D., Ph.D.	54	President, Chief Executive Officer and Director
Hans Hull	46	Chief Business Officer
Éric Lefebvre, M.D.	56	Chief Medical Officer
Keith Cummings, M.D., MBA	43	Chief Financial Officer
Barbara Howes	55	Chief Human Resource Officer
Non-Employee Directors:		
Hoyoung Huh, M.D., Ph.D.(3)	50	Lead Director
Suzanne Bruhn, Ph.D.(1)(2)	56	Director
Gayle Crowell(1)(3)	69	Director
John Curnutte, M.D.(2)	68	Director
Neil Exter(2)	61	Director
Charles Homcy, M.D.(3)	71	Director
Kevin Raidy*	51	Director
Smital Shah(1)	43	Director

(1) Member of the Audit Committee.
(2) Member of the Compensation Committee.
(3) Member of the Nominating and Corporate Governance Committee.
* Mr. Raidy has indicated that he will resign as a director contingent upon, and effective immediately following, the effectiveness of the registration statement of which this prospectus is a part.

Executive Officers

Bernard Coulie, M.D., Ph.D., MBA, has served as our Chief Executive Officer and as a Director since February 2016. Prior to joining us, Dr. Coulie cofounded ActoGeniX N.V., a biopharmaceutical company, and held roles of increasing responsibility there, including as Vice President R&D, Chief Medical Officer and Chief Executive Officer, from September 2006 until February 2015, when it was acquired by Intrexon Corporation. Prior to cofounding ActoGeniX, Dr. Coulie held various positions with increasing responsibilities in drug discovery and clinical development at Johnson & Johnson Pharmaceutical Research and Development Europe. Dr. Coulie previously served as a director of ActoGeniX from April 2010 until February 2015, Biogazelle N.V. from July 2015 until November 2018, Myoscience from June 2016 until March 2019. Dr. Coulie is currently serving as a director and Chairman of Calypso BV. Dr. Coulie holds a M.D. and Ph.D. from the University of Leuven, Belgium and a MBA from the Vlerick Management School, Leuven, Belgium. We believe that Dr. Coulie is qualified to serve on our board of directors based on our review of his experience and expertise in operations management and executive leadership at various biopharmaceutical companies.

Hans Hull, J.D., has served as our Chief Business Officer since March 2016. Prior to joining us, Mr. Hull held roles of increasing responsibility at Avalanche Biotechnologies, Inc., a biopharmaceutical company, from March 2011 until December 2015, including Vice President, Legal and Corporate Development, then Senior Vice President, Business Operations and interim President, and then Chief Executive Officer. Prior to Avalanche, from May 2008 to December 2011, he served as a legal and business development consultant for life sciences companies, including Second Genome, Inc., a biotechnology company, and Aprecia Pharmaceuticals, a pharmaceutical company. Mr. Hull was also the Vice President and then Chief Executive Officer of Orthobond Corporation, a medical device startup from March 2005 to April 2008. Mr. Hull also had an earlier career as an

intellectual property attorney at Heller Ehrman LLP and life science consultant at ZS Associates. He holds an A.B. in Chemistry from Princeton University and a J.D. from the University of California, Berkeley.

Éric Lefebvre, M.D., has served as our Chief Medical Officer since May 2018. Prior to joining us, Dr. Lefebvre served as the Vice President of Allergan plc, a global pharmaceutical company, from November 2016 until April 2018. Prior to Allergan, Dr. Lefebvre served as Chief Medical Officer of Tobira Therapeutics, Inc., a clinical-stage biopharmaceutical company, from January 2012 until November 2016. Dr. Lefebvre also led global clinical development and global medical affairs at Janssen Pharmaceuticals for 10 years prior to starting his pharmaceutical career at GlaxoSmithKline Canada. This was preceded by 15 years of providing primary care at Clinique Medicale L'Actuel in Montreal, Canada. He holds a B.S. in Health Sciences from Edouard-Montpetit College and a M.D. from the University of Montreal.

Keith Cummings, M.D., MBA, has served as our Chief Financial Officer since December 2018. Prior to joining us, Dr. Cummings served as a Director in the Investment Banking Healthcare Group at Citigroup Global Markets from September 2014 until December 2018. Prior to joining Citigroup, Dr. Cummings worked at Lehman Brothers and, subsequently, at Barclays Investment Bank from August 2009 to September 2014, where he served as a vice president of investment banking. He holds a B.S. in Biochemistry from North Carolina State University, an MBA from Duke University's Fuqua School of Business and an M.D. from Duke University School of Medicine.

Barbara Howes has served as our served as our Chief Human Resource Officer since May 2019. Prior to joining us, Ms. Howes worked full time in consulting full-time in October 2014 where she served as the interim Head of Human Resources for several biotechnology companies, including Pliant prior to joining us full time. Ms. Howes has over 20 years' experience designing and delivering creative and impactful human resources, leadership development and change management solutions with a focus on optimizing organizational performance in the areas of innovation, collaboration, culture and strategy. Prior to founding her consulting practice in October 2014, Ms. Howes led the executive and organization development, career & learning, diversity, and workforce research teams at Genentech from June 2008 through October 2014. Prior to joining Genentech, Ms. Howes spent 12 years at The Walt Disney Company, where she held various development positions at The Disney Stores, Walt Disney Imagineering, and Corporate. She holds a B.A. in Liberal Arts from Mount Saint Mary's College and a MBA with an emphasis in Organizational Behavior from California Lutheran University.

Non-Employee Directors

Hoyoung Huh, M.D., Ph.D., has served as Lead Director of our board of directors since December 2017. He is the founder of pH Pharma and Healthcare & Humanity Foundation. Dr. Huh was a Managing Director of Konus Advisory Group, Inc. from January 2012 to September 2014. Prior to founding Konus Advisory Group, Inc., Dr. Huh was Chief Executive Officer and Chairman of the board of directors of BiPar Sciences, Inc. from February 2008 until December 2010. In addition, Dr. Huh has been involved in the formation, management and board positions of multiple biotechnology and innovation-based companies. He previously served as the Chairman of the board of directors of Geron Corporation from September 2011 to December 2018, and CytomX Therapeutics, Inc. from February 2012 to December 2018, a member of the board of directors of Rezolute, Inc. (f/k/a AntriaBio, Inc.) from 2013 to January 2019, the Chairman of the board of directors of Epizyme, Inc. from October 2009 to February 2012, and as a member of the board of directors of Facet Biotech Corporation, Nektar Therapeutics, Inc., Addex Therapeutics Ltd. and EOS, S.p.A (Milano, Italy). Earlier in his career, Dr. Huh was a partner at McKinsey & Company. He holds A.B. in Biochemistry from Dartmouth College, a M.D. from Cornell University Medical College and a Ph.D. in Cell Biology and Genetics from Cornell University Sloan Kettering Institute. We believe Dr. Huh is qualified to serve on our board of directors based on his significant leadership experience in and familiarity with the biopharmaceutical industry.

Suzanne Bruhn, Ph.D., has served as a member of our board of directors since July 2016. Dr. Bruhn currently serves as President and Chief Executive Officer of Tiaki Therapeutics, a preclinical biotechnology

company, since May 2019. Prior to that, Dr. Bruhn served as President and Chief Executive Officer of Proclara Biosciences, Inc, a clinical-stage biotechnology company, from April 2017 until September 2018. Prior to Proclara, Dr. Bruhn served as President and Chief Executive Officer of Promedior, Inc., a private clinical-stage biotech company developing targeted therapies to treat diseases involving fibrosis, from May 2012 until November 2015. She currently also serves on the board of directors of Aeglea BioTherapeutics, Inc, a publicly traded biotherapeutics company, from February 2017. She previously served as a member of the board of directors of Novelion Therapeutics, Inc, a publicly traded pharmaceutical company, from October 2017 through January 2020, and Raptor Pharmaceuticals Corp., a publicly traded pharmaceutical company, from April 2011 until it was acquired by Horizon Pharma plc in October 2016. She holds a B.S. in Chemistry from Iowa State University and a Ph.D. in Chemistry from Massachusetts Institute of Technology and completed her postdoctoral fellowship in the department of human genetics at Harvard Medical School. We believe Dr. Bruhn is qualified to serve on our board of directors based on her expertise and experience in the biopharmaceutical industry, including her expertise in the development of treatments for rare diseases and diseases involving fibrosis.

Gayle Crowell, has served as a member of our board of directors since December 2019. Ms. Crowell serves as a member of the board of directors of Envestnet, Inc., a role she has held since March 2016. Prior to that she served as lead independent director of Yodlee, Inc. from March 2014 and as a member of the Yodlee, Inc. board of directors from July 2002 until November 19, 2015, when Yodlee, Inc. was acquired by Envestnet. Ms. Crowell served as an operational business consultant for Warburg Pincus LLC, a private equity firm, from June 2001 to January 2019. From January 2000 to June 2001, Ms. Crowell served as president of Epiphany, Inc., a developer of customer relationship management software which was acquired by SSA Global Technologies, Inc. in September 2005. Ms. Crowell also currently serves on the board of directors of Dude Solutions Inc., a provider of facilities maintenance software, and of Hercules Capital, a specialty finance company, effective February 4, 2019. Ms. Crowell received an undergraduate degree in education from the University of Nevada at Reno.

John Curnutte, M.D., Ph.D., has served as a member of our board of directors since August 2017. From February 2011 through his retirement in May 2019, Dr. Curnutte served as Executive Vice President of Research and Development at Portola Pharmaceuticals, Inc., a biopharmaceutical company developing product candidates for thrombosis and other hematologic diseases. He remains as a consultant to Portola. Prior to that, Dr. Curnutte served as the Chief Executive Officer of 3-V Biosciences, Inc., a biotechnology company. Earlier in his career, he served as a President of Schering-Plough Biopharma and previously held several senior management positions at Genentech, Inc., a biotechnology company. Prior to Genentech, Dr. Curnutte was a tenured faculty member at The Scripps Research Institute, pursuing basic and clinical research in inflammation biochemistry and the molecular genetics of congenital immune deficiencies. He was an adjunct clinical professor of pediatrics at Stanford University School of Medicine and a member of the medical staff from 1993 to 2013. From May 2015 to June 2016, Dr. Curnutte served as a member of the board of directors of Diadexus, Inc., a cardiovascular diagnostics company. Since August 2019, he serves as a member of the board of directors of Orchard Therapeutics, a company focused on ex vivo autologous bone marrow gene therapy. Dr. Curnutte holds a B.S. in Biochemistry and Molecular Biology from Harvard University and a M.D. and a Ph.D. in Biological Chemistry from Harvard Medical School. We believe Dr. Curnutte is qualified to serve on our board of directors based on his experience in the biopharmaceutical industry, including his operational experience in drug discovery and development.

Neil Exter, MBA, has served as a member of our board of directors since June 2015. He has been a partner at Third Rock Ventures since November 2007. Mr. Exter has more than 30 years of business development, strategy and operating management experience, across the spectrum of emerging and established biotech and technology companies. Mr. Exter is currently the interim chief business officer and a director of Cedilla Therapeutics. Prior to joining Third Rock Ventures, Mr. Exter was CBO of Alantos Pharmaceuticals and led the sale of that company to Amgen. Previously, he served as Vice President of Business Development for Millennium Pharmaceuticals. Mr. Exter presently is a board member of Element Science, Goldfinch Bio, Pliant Therapeutics, Revolution Medicines, Celsius Therapeutics, Decibel Therapeutics, Motus Therapeutics, and NEVCA; he previously served as a director of Rhythm Pharmaceuticals and Cibiem. He is a member of the

Research Committee of Children's Hospital Boston, the investment committee of the Innovation Research Fund at Partners Healthcare, and the board of directors of the New England Venture Capital Association. He holds an MBA as a Baker Scholar from Harvard Business School, an M.S. from Stanford University, and a B.S. from Cornell University. We believe that Mr. Exter's extensive experience in the life sciences industry as a venture capitalist and senior executive, as well as his service on the boards of directors of numerous biotechnology companies provide him with the qualifications to serve as a director of our company.

Charles Homcy, M.D. has served as a member of our board of directors since July 2015. Dr. Homcy joined Third Rock Ventures, a venture capital firm in 2010, where he was a partner until October 2019 and now serves in an advisory capacity. In 2003, he co-founded Portola Pharmaceuticals, a clinical biotechnology company, and he served as president and chief executive officer until 2010. Prior to that, Dr. Homcy served as the president of research and development at Millennium Pharmaceuticals, Inc. a biopharmaceutical company, following its acquisition of COR Therapeutics, Inc. in 2002. He joined COR Therapeutics, Inc., a biopharmaceutical company, in 1995 as executive vice president of research and development, and he served as a director of the company from 1998 to 2002. He was previously president of the medical research division of American Cyanamid-Lederle Laboratories. Dr. Homcy was a clinical professor of medicine at the University of California, San Francisco Medical School, and attending physician at the San Francisco Veterans Affairs Hospital from 1997 to 2008. He was previously a member of the Cardiac Unit of the Massachusetts General Hospital and an Associate Professor of Medicine at Harvard Medical School. Dr. Homcy holds a B.A. and an M.D. from Johns Hopkins University and currently serves on its board of trustees. Dr. Homcy is a cofounder of multiple biotechnology companies including GBT, MyoKardia, Relay, Goldfinch, Pliant, Ambys and Maze. He is also a cofounder of BridgeBio. We believe Dr. Homcy is qualified to serve on our board of directors based on his significant experience building and leading successful biotechnology companies and his scientific expertise.

Kevin Raidy has served as a member of our board of directors since July 2018. Mr. Raidy is the Managing Partner and Portfolio Manager of Cowen Healthcare Investments. Until October 2017, Mr. Raidy served as Head of Investment Banking at Cowen and Company. He previously served as co-head of Cowen and Company's equity capital markets group, which is responsible for the origination and execution of all equity capital-raising transactions. Before that, he was a managing director at Ramius LLC, where he was portfolio manager for direct investments and convertible bonds, managing a portfolio in excess of $1 billion. Mr. Raidy also was the founder of H4 Capital Management LLC. His sell-side experience includes ten years at Shipley Raidy Capital Partners LP, a boutique investment banking firm that he co-founded, where he was responsible for sourcing, evaluating, and structuring numerous debt and equity financings and also performed M&A advisory services. Prior to founding Shipley Raidy, Mr. Raidy was an associate at Philadelphia First Group. He started his career at Cantor Fitzgerald before moving to Merrill Lynch as an analyst in the municipal finance group. Mr. Raidy is currently serving as a director of Repare Therapeutics Inc., and he previously served as a director of Semma Therapeutics, Inc. until October 2019. Mr. Raidy holds a BS in economics with a concentration in finance from the Wharton School of the University of Pennsylvania. We believe Mr. Raidy is qualified to serve on our board of directors based on his significant leadership experience in the investment banking industry.

Smital Shah, MBA, has served as a member of our board of directors since March 2019. Since October 2014, Ms. Shah has served in roles of increasing responsibility at ProQR Therapeutics NV, a rare disease company, including as Chief Financial Officer and most recently as Chief Business and Financial Officer. Previously, Ms. Shah managed the multi-billion-dollar debt, cash and investment portfolios of Gilead Sciences, Inc. Prior to Gilead, she was an investment banker at Leerink Partners and JP Morgan focused on capital raising and strategic transactions in the biotechnology space. Previously, Ms. Shah held various research and development roles at Johnson & Johnson Company. She holds a B.S. in Chemical Engineering from the University of Mumbai, a M.S. in Chemical Engineering from Virginia Tech and a MBA from the University of California, Berkeley Haas School of Business. We believe Ms. Shah is qualified to serve on our board of directors due to her extensive experience in the life sciences industry and her leadership experience as a senior financial executive.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Composition of Our Board of Directors

Our board of directors consists of nine members, each of whom are members pursuant to the board composition provisions of our certificate of incorporation and agreements with our stockholders. These board composition provisions will terminate upon the completion of this offering. Upon the termination of these provisions, there will be no further contractual obligations regarding the election of our directors. Our nominating and corporate governance committee and our board of directors may consider a broad range of factors relating to the qualifications and background of nominees. Our nominating and corporate governance committee's and our board of directors' priority in selecting board members is to identify persons who will further the interests of our stockholders through his or her established record of professional accomplishments, the ability to contribute positively to the collaborative culture among board members, knowledge of our business, understanding of the competitive landscape, and professional and personal experiences and expertise relevant to our growth strategy. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal. Our amended and restated certificate of incorporation and amended and restated by-laws that will become effective immediately prior to the closing of this offering also provide that our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the votes that all our stockholders would be entitled to cast in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

Director Independence

Upon the completion of this offering, we expect that our common stock will be listed on the Nasdaq Global Market. Applicable Nasdaq rules require a majority of a listed company's board of directors to be comprised of independent directors within one year of listing. In addition, the Nasdaq rules require that (i) on the date of the initial listing, at least one member of each of a listed company's audit, compensation and nominating and corporate governance committees be independent, (ii) within 90 days of the date of the initial listing, a majority of the members of such committees be independent and (iii) within one year of the date of the initial listing, all the members of such committees be independent. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act. Under applicable Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of the listed company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries.

Our board of directors has determined that all members of the board of directors, except Dr. Coulie, are independent directors, including for purposes of the rules of Nasdaq and the SEC. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining his or her independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. Upon the completion of this offering, we expect that the composition and functioning of our board of directors and each of our committees will comply

with all applicable requirements of Nasdaq and the rules and regulations of the SEC. Dr. Coulie is not an independent director under these rules because he is currently employed as the chief executive officer of our company.

Staggered Board

In accordance with the terms of our amended and restated certificate of incorporation and amended and restated by-laws that will become effective immediately prior to the closing of this offering, our board of directors will be divided into three staggered classes of directors and each will be assigned to one of the three classes. At each annual meeting of the stockholders, a class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2021 for Class I directors, 2022 for Class II directors and 2023 for Class III directors.

- Our Class I directors will be Hoyoung Huh, M.D., Ph.D. and Neil Exter.
- Our Class II directors will be John Curnutte, M.D., Smital Shah and Charles Homcy, M.D.
- Our Class III directors will be Bernard Coulie, M.D., Ph.D., Gayle Crowell and Suzanne Bruhn, Ph.D.

Our amended and restated certificate of incorporation and amended and restated by-laws that will become effective immediately prior to the closing of this offering will provide that the number of directors shall be fixed from time to time by a resolution of the majority of our board of directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our board of directors or a change in control.

Board Leadership Structure and Board's Role in Risk Oversight

Hoyoung Huh, M.D., Ph.D. is our current lead director of the board and Bernard Coulie, M.D., Ph.D. is our current chief executive officer, hence the roles of lead director or chairman and the chief executive officer and president are separated. We plan to keep these roles separated following the completion of this offering. We believe that separating these positions allows our chief executive officer to focus on setting the overall strategic direction of the company, expanding the organization to deliver on our strategy and overseeing our day-to-day business, while allowing a lead director of the board to lead the board of directors in its fundamental role of providing strategic advice. Our board of directors recognizes the time, effort and energy that the chief executive officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our lead director, particularly as the board of directors' oversight responsibilities continue to grow. While our amended and restated by-laws and corporate governance guidelines do not require that our lead director and chief executive officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

Risk is inherent with every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including risks relating to our financial condition, development and commercialization activities, operations, strategic direction and intellectual property as more fully discussed in the section entitled "Risk Factors" appearing elsewhere in this prospectus. Management is responsible for the day-to-day management of risks we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are adequate and functioning as designed.

The role of the board of directors in overseeing the management of our risks is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees below and in the

charters of each of the committees. The full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairperson of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables the board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

Committees of Our Board of Directors

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which will operate pursuant to a charter adopted by our board of directors and will be effective upon the effectiveness of the registration statement of which this prospectus is a part. Upon the effectiveness of the registration statement of which this prospectus is a part, the composition and functioning of all of our committees will comply with all applicable requirements of the Sarbanes-Oxley Act of 2002, and with Nasdaq and SEC rules and regulations.

Audit Committee

Effective upon the effectiveness of the registration statement of which this prospectus is a part, Smital Shah, Suzanne Bruhn and Gayle Crowell will serve on the audit committee, which will be chaired by Smital Shah. Our board of directors has determined that each of Ms. Shah, Ms. Bruhn and Ms. Crowell are "independent" for audit committee purposes as that term is defined in the rules of the SEC and the applicable Nasdaq rules, and each has sufficient knowledge in financial and auditing matters to serve on the audit committee. Our board of directors has designated Ms. Shah as an "audit committee financial expert," as defined under the applicable Nasdaq rules. The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the audit committee's review and discussions with management and our independent registered public accounting firm whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement; and
- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions.

Compensation Committee

Effective upon the effectiveness of the registration statement of which this prospectus is a part, Suzanne Bruhn, Ph.D., John Curnutte, M.D. and Neil Exter will serve on the compensation committee, which will be chaired by Suzanne Bruhn, Ph.D. Our board of directors has determined that Ms. Bruhn and Dr. Curnutte are "independent" as defined in the applicable Nasdaq rules. Mr. Exter is not "independent" and we are relying on the phase-in schedules set forth in Nasdaq listing rule 5615(b)(1) with respect to Mr. Exter's service on the compensation committee. Pursuant to the phase-in schedules, we must have all members of the compensation committee be independent within one year of listing. The compensation committee's responsibilities include:

- annually reviewing and recommending to the board of directors the corporate objectives relevant to the compensation of our principal executive officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation: (i) approving or recommending to the board of directors cash compensation of our principal executive officer; and (ii) reviewing and approving or recommending to the board of directors grants and awards to our principal executive officer under equity-based plans;
- reviewing and approving or recommending to the board of directors the compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to the board of directors the compensation of our outside directors;
- preparing the compensation committee report required by SEC rules, if and when required, to be included in our annual proxy statement; and
- reviewing and approving the retention, termination or compensation of any consulting firm or outside advisor to assist in the evaluation of compensation matters.

Nominating and Corporate Governance Committee

Effective upon the effectiveness of the registration statement of which this prospectus is a part, Hoyoung Huh, M.D., Ph.D., Gayle Crowell and Charles Homcy, M.D., will serve on the nominating and corporate governance committee, which will be chaired by Hoyoung Huh, M.D., Ph.D. Our board of directors has determined that each member of the nominating and corporate governance committee is "independent" as defined in the applicable Nasdaq rules. The nominating and corporate governance committee's responsibilities include:

- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;
- recommending to the board of directors the persons to be nominated for election as directors and to each of the board's committees;

- developing and recommending to the board of directors a code of business conduct and ethics and a set of corporate governance guidelines; and
- overseeing the evaluation of our board of directors and management.

Our board of directors may from time to time establish other committees.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee has at any time during the prior three years been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Corporate Governance

We intend to adopt a written code of business conduct and ethics, effective upon the effectiveness of the registration statement of which this prospectus is a part, that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Following the effectiveness of the registration statement of which this prospectus is a part, a current copy of the code will be posted on the investor relations section of our website, which is located at https://pliantrx.com. The inclusion of our website address in this prospectus does not incorporate by reference the information on or accessible through our website into this prospectus. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Limitation on Liability and Indemnification Matters

Our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, will contain provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which the director derived an improper personal benefit.

Each of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to the completion of this offering, will provide that we are required to indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law. Our amended and restated bylaws will also obligate us to advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under Delaware law. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our board of directors. With specified exceptions, these agreements provide for indemnification for related expenses including, among other things, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these certificate of incorporation and bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against our directors and officers for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and our stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage.

EXECUTIVE COMPENSATION

Overview

The following discussion contains forward-looking statements that are based on our current plans and expectations regarding our future compensation programs. The actual amount and form of compensation that we pay and the compensation policies and practices that we adopt in the future may differ materially from the currently-planned programs that are summarized in this discussion.

The compensation provided to our named executive officers for the fiscal year ended December 31, 2019 is detailed in the 2019 Summary Compensation Table and accompanying footnotes and narrative that follow. Our named executive officers for the fiscal year ended December 31, 2019, which consists of our Chief Executive Officer and our two most highly-compensated individuals (other than our Chief Executive Officer) who were serving as executive officers on December 31, 2019 are:

- Bernard J. Coulie, M.D., Ph.D., our Chief Executive Officer;
- Keith L. Cummings, M.D., MBA, our Chief Financial Officer; and
- Hans Hull, J.D., our Chief Business Officer.

2019 Summary Compensation Table

The following table provides information regarding the total compensation awarded to, earned by, and paid to our named executive officers for services rendered to us in all capacities for the fiscal year ended December 31, 2019.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)(1)	Option Awards ($)(2)	Non-equity Incentive Plan Compensation ($)(3)	All Other Compensation ($)	Total ($)
Bernard J. Coulie, M.D., Ph.D. *Chief Executive Officer*	2019	428,108	2,000(4)		1,673,280	219,193	49,905(5)	2,372,486
Keith L. Cummings, M.D., MBA *Chief Financial Officer*	2019	340,000	252,000(6)		964,285	122,403	11,200(7)	1,689,888
Hans Hull, J.D. *Chief Business Officer*	2019	355,137	75,000(8)		268,560	136,369	11,200(7)	846,266

(1) The amounts reported represent the aggregate grant date fair value of the restricted stock awards granted to our named executive officers during the 2019 fiscal year, calculated in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718. Such grant date fair values do not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value of the restricted stock awards reported in this column are set forth in note 11 of our financial statements included elsewhere in this prospectus. The amounts reported in this column reflect the accounting cost for these restricted stock awards and do not correspond to the actual economic value that may be received by our named executive officers upon the vesting of the restricted stock awards or any sale of the underlying shares of common stock.

(2) The amounts reported represent the aggregate grant date fair value of the stock option awards granted to our named executive officers during the 2019 fiscal year, calculated in accordance with FASB ASC Topic 718. Such grant date fair values do not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value of the stock option awards reported in this column are set forth in note 11 of our financial statements included elsewhere in this prospectus. The amounts reported in this column reflect the accounting cost for these stock option awards and do not correspond to the actual economic value that may be received by our named executive officers upon the exercise of the stock option awards or any sale of the underlying shares of common stock. For Mr. Hull, the grant date fair value of his performance-based stock option award is reported based on the probable outcome of the applicable performance metrics and the grant date fair value of the such performance-based stock option award, based on maximum level of achievement of the applicable performance metrics, is $178,920.

(3) Represents amounts earned by our named executive officers under our short-term incentive program, based on the Company's achievement of certain corporate performance goals and the named executive officers' individual performance during the 2019 fiscal year.

(4) Represents a one-time discretionary performance bonus that Dr. Coulie received in connection with the execution of the Novartis Agreement in October 2019.
(5) The amounts reported represents $11,200 for matching contributions made by the Company under its 401(k) plan, $20,000 for travel reimbursements, and $18,705 for tax gross-ups paid by the Company for such travel reimbursements.
(6) Represents a one-time discretionary performance bonus equal to $250,000 that Dr. Cummings received in connection with the Company's issuance of Series C Redeemable Convertible Preferred stock in December 2019 and a one-time discretionary performance bonus equal to $2,000 that Dr. Cummings received in connection with the execution of the Novartis Agreement.
(7) The amount reported represents $11,200 for matching contributions made by the Company under its 401(k) plan.
(8) Represents a one-time discretionary performance bonus that Mr. Hull received in connection with the execution of the Novartis Agreement in October 2019.

Narrative to Summary Compensation Table

Base Salaries

From January 1, 2019 through February 14, 2019, the annual base salaries for Dr. Coulie and Mr. Hull were $413,631 and $344,793, respectively. Effective as of February 15, 2019, the annual base salaries for Dr. Coulie and Mr. Hull were increased to $428,108 and $355,137, respectively. Dr. Cumming's annual base salary for the fiscal year ended December 31, 2019 was $340,000.

Annual Bonuses

During the fiscal year ended December 31, 2019, our named executive officers were eligible to participate in the Company's short-term incentive program, pursuant to which each was eligible to earn an annual bonus based on the achievement of certain Company performance objectives and individual performance. For the fiscal year ended December 31, 2019, the target annual bonuses for Drs. Coulie and Cummings and Mr. Hull were 40.0%, 30.0% and 30.0%, respectively, of the applicable named executive officer's annual base salary.

Discretionary Bonuses

During the fiscal year ended December 31, 2019, we also provided our named executive officers with certain one-time discretionary performance bonuses for their contributions to the successful execution of the Novartis Agreement and/or the Company's issuance of Series C Redeemable Convertible Preferred stock, each as described further in our "Executive Compensation—2019 Summary Compensation Table" above.

Equity Compensation

During the fiscal year ended December 31, 2019, we granted stock option awards to each of our named executive officers, as described in more detail in the "Outstanding equity awards at fiscal 2019 year-end" table.

401(k) Plan

We maintain a tax-qualified 401(k) plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax-advantaged basis. Plan participants are able to defer eligible compensation subject to applicable annual Internal Revenue Code limits. We provide a safe harbor matching contribution equal to 100% on the first 3% of participant contributions and an additional 50% on the next 2% of participant contributions, which is 100% vested when contributed. We may also decide to make nonelective contributions, although we are not required to do so pursuant to the terms of the 401(k) plan. The 401(k) plan is intended to be qualified under Section 401(a) of the Internal Revenue Code with the 401(k) plan's related trust intended to be tax exempt under Section 501(a) of the Internal Revenue Code. As a tax-qualified retirement plan, contributions to the 401(k) plan and earnings on those contributions are not taxable to the employees until distributed from the 401(k) plan.

Perquisites

We generally do not provide perquisites to our employees, other than a travel reimbursements and related tax gross ups to Dr. Coulie.

Executive Employment Arrangements

We initially entered into an offer letter with each of the named executive officers in connection with his employment with us, which set forth the terms and conditions of his employment. Each named executive officer also entered into our standard confidentiality and inventions assignment agreement.

Offer Letters in Place During the Fiscal Year Ended December 31, 2019 for Our Named Executive Officers

Bernard Coulie, M.D., Ph.D.

On October 12, 2015, we entered into an offer letter with Dr. Coulie, who currently serves as our Chief Executive Officer. The offer letter provided for Dr. Coulie's at-will employment and set forth his initial annual base salary, initial target annual bonus opportunity, a $250,000 sign-on bonus, annual travel reimbursements of up to $20,000 and an initial restricted stock grant for 2,759,780 shares of our common stock, as well as his eligibility to participate in our employee benefit plans generally. Dr. Coulie's offer letter also provides that, in the event of a termination of his employment by the Company without "cause" (as defined in Dr. Coulie's offer letter) and other than for death or disability, subject to Dr. Coulie's execution of an effective release of claims in favor of the Company and his continued compliance will all legal and contractual obligations to the Company, Dr. Coulie will be entitled to a severance benefit in the form of a lump sum payment equal to six months of his then-base salary. Dr. Coulie is subject to our standard confidential information and inventions assignment agreement.

Keith Cummings, M.D., MBA

On December 31, 2018, we entered into an offer letter with Dr. Cummings, who currently serves as our Chief Financial Officer. The offer letter provided for Dr. Cummings' at-will employment and set forth his initial annual base salary, initial target bonus opportunity, a $100,000 sign-on bonus, a performance-based bonus of $250,000 based on the consummation of a collaboration agreement in which the Company receives certain significant payments, a stock option award for 1,612,247 shares of our common stock, as well as his eligibility to participate in our employee benefit plans generally. Dr. Cummings' offer letter also provides that, in the event of a termination of his employment by the Company without "cause" (as defined in Dr. Cummings' offer letter), subject to Dr. Cummings' execution of an effective release of claims in favor of the Company, Dr. Cummings will be entitled to a severance benefit of 12 months' base salary continuation, payable in accordance with the Company's normal payroll schedule. Dr. Cummings is subject to our standard confidential information and inventions assignment agreement.

Hans Hull, J.D.

On February 10, 2016, we entered into an offer letter with Mr. Hull, who currently serves as our Chief Business Officer. The offer letter provided for Mr. Hull's at-will employment and set forth his initial annual base salary, initial target annual bonus opportunity, and an initial restricted stock grant for 927,000 shares of our common stock, as well as his eligibility to participate in our employee benefit plans generally. Mr. Hull's offer letter also provides that, in the event of a termination of his employment by the Company without "cause" (as defined in Mr. Hull's offer letter) and other than for death or disability, subject to Mr. Hull's execution of an effective release of claims in favor of the Company and his continued compliance will all legal and contractual obligations to the Company, Mr. Hull will be entitled to a severance benefit in the form of a lump sum payment equal to six months of his then-base salary. Mr. Hull is subject to our standard confidential information and inventions assignment agreement.

Executive Severance Plan

In connection with this offering, our board of directors will adopt an Executive Severance Plan, or the Severance Plan, subject to the effectiveness of this offering, in which our named executive officers, and certain

other executives, will participate. The benefits provided in the Severance Plan will replace any severance for which our named executive officers may be eligible under their existing offer letters or other agreements or arrangements, except to the extent such offer letters or other agreements or arrangements provide for greater benefits; provided, that, the defined terms in the Severance Plan will supersede the corresponding defined terms or other similar terms in such offer letter or other agreements or arrangements.

The Severance Plan will provide that upon a termination by us for any reason other than for "cause," as defined in the Severance Plan, death or "disability," as defined in the Severance Plan, outside of the change in control period (i.e., the period of one year after a "change in control," as defined in the Severance Plan), an eligible participant will be entitled to receive, subject to the execution and delivery of an effective release of claims in favor of the Company and continued compliance with all applicable restrictive covenants, (i) 12 months of "base salary" (i.e., the higher of the annual base salary in effect immediately prior to the date of termination or the annual base salary in effect for the year immediately prior to the year in which the date of termination occurs) for our Chief Executive Officer and nine months of base salary for the other named executive officers, (ii) an amount equal to the named executive officer's target annual bonus in effect immediately prior to the date of termination, pro-rated for the number of days employed during the year of termination, and (iii) an amount equal to the monthly employer contribution, based on the premiums as of the date of termination, that we would have made to provide health insurance for the named executive officer if he had remained employed by us for up to 12 months for our Chief Executive Officer and nine months for our other named executive officers. The payments under (i), (ii) and (iii) will be paid in substantially equal installments in accordance with our payroll practice over 12 months for our Chief Executive Officer and nine months for our other named executive officers.

The Severance Plan will also provide that upon a (A) termination by us other than for cause, death or disability or (B) resignation for "good reason," as defined in the Severance Plan, in each case within the change in control period, an eligible participant will be entitled to receive, in lieu of the payments and benefits above and subject to the execution and delivery of an effective release of claims in favor of the Company and continued compliance with all applicable restrictive covenants, (I) a lump sum amount equal to 150% of the base salary and 150% of the target annual bonus in effect immediately prior to the date of termination (or immediately prior to the change in control, if higher) for our Chief Executive Officer and 100% of the base salary and 100% of the target annual bonus in effect immediately prior to the date of termination (or immediately prior to the change in control, if higher) for our other named executive officers (II) a lump sum amount equal to the monthly employer contribution, based on the premiums as of the date of termination, that we would have made to provide health insurance for the participant if the applicable named executive officer had remained employed by us for 18 months for our Chief Executive Officer and 12 months for our other named executive officers and (III) for all outstanding and unvested equity awards of the Company that are subject to time-based vesting held by the participant, full accelerated vesting of such awards; provided, that the performance conditions applicable to any outstanding and unvested equity awards subject to performance-based vesting will be deemed satisfied at the target level specified in the terms of the applicable award agreement.

The payments and benefits provided under the Severance Plan in connection with a change in control may not be eligible for a federal income tax deduction by us pursuant to Section 280G of the Code. These payments and benefits may also subject an eligible participant, including the named executive officers, to an excise tax under Section 4999 of the Code. If the payments or benefits payable in connection with a change in control would be subject to the excise tax imposed under Section 4999 of the Code, then those payments or benefits will be reduced if such reduction would result in a higher net after-tax benefit to the participant.

Outstanding Equity Awards at Fiscal 2019 Year-End

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2019:

			Option Awards(1)					Stock Awards(1)	
Name	Grant Date	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price	Option Expiration Date	Number of Shares or Units of Stock that have Not Vested (#)	Market Value of Shares or Units of Stock that have Not Vested ($)(2)
Bernard Coulie, M.D., Ph.D	2/8/18	3/1/18						253,125(3)	250,594
	1/24/2019	1/24/2019	641,666	2,158,334(4)		$ 0.29	1/23/29		
Keith Cummings, M.D., MBA	1/24/19	12/31/18	403,061	1,209,186(4)		$ 0.29	1/23/29		
Hans Hull, J.D	4/7/16	3/9/16						57,938(3)	57,359
	2/8/18	3/1/18						42,188(3)	41,766
	1/24/19	1/24/19	34,375	115,625(4)		$ 0.29	1/23/29		
	1/24/19	1/24/19			300,000(5)	$ 0.29	1/23/29		

(1) Each equity award is subject to the terms of our 2015 Plan.
(2) Based on the fair market value of a share of our common stock on 12/31/19, which was $0.99.
(3) 25% of the shares vest on the first anniversary of the vesting commencement date and the remaining 75% vest in 36 equal monthly installments thereafter, subject to the named executive officer's continuous service relationship with us through each applicable vesting date. Notwithstanding the foregoing, the shares are subject to certain acceleration of vesting provisions upon the occurrence of certain events or termination of the named executive officer's service relationship, provided that the named executive officer is in "good standing" (as defined in the applicable restricted stock award agreement) at the time of such event and subject to the named executive officer's continued service to the Company through such event or termination: (i) acceleration of vesting of 25% of the shares subject to the award upon the named executive officer's death; (ii) acceleration of vesting of 12.5% of the shares subject to the award upon a termination of employment by the Company; and (iii) acceleration of vesting of 100% of the then unvested shares upon a termination in connection with or after a "sale event" (as defined in the applicable restricted stock award agreement).
(4) 1/48th of the shares vest and become exercisable on each monthly anniversary while the named executive officer is providing continuous service to the Company through each vesting date. Notwithstanding the foregoing, in the event of a "change in control" (as defined in our 2015 Plan) (i) pursuant to which the award is assumed or continued by the surviving or acquiring corporation in such change in control, as determined by our board of directors, and (ii) we terminate the named executive officer's continuous service without "cause" (as defined in our 2015 Plan) or the named executive officer terminates his employment for "good reason" (as defined in the applicable stock option award agreement), in either case within twelve (12) months following such change in control and subject to the named executive officer's execution and non-revocation of a release of claims in the form prescribed by us within sixty (60) days after the date of such termination, the award shall be 100% vested upon the date of such termination of employment.
(5) 100% of the shares subject to the option shall vest upon the closing of a partnering transaction approved by our board of directors between us and a pharmaceutical company; provided (i) that such closing must occur by December 31, 2020; (ii) that the definitive agreement for such transaction provides that the we shall have a right to payment of at least $10,000,000 at or within 90 days of closing, a right to payment in the event of the achievement of developmental or sales milestones, and a right to receive royalties in the event of commercial sales; and (iii) that the named executive officer must be providing continuous service to us through such vesting date. In connection with the execution of the Novartis Agreement, on October 17, 2019, 100% of the shares subject to the option were fully vested.

Employee Benefits and Equity Compensation Plans

2020 Stock Option and Incentive Plan

In connection with this offering, our board of directors plans to adopt a 2020 Stock Option and Incentive Plan, or the 2020 Plan. The 2020 Plan will become effective on the date immediately prior to the date on which the registration statement of which this prospectus is part is declared effective by the SEC. The 2020 Plan will replace our 2015 Plan, as our board of directors will not make additional awards under the 2015 Plan following the closing

of this offering. The 2020 Plan will provide flexibility to our compensation committee to use various equity-based incentive awards as compensation tools to motivate our workforce.

We will initially reserve shares of our common stock, or the Initial Limit, for the issuance of awards under the 2020 Plan. The 2020 Plan provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2021, by % of the outstanding number of shares of our common stock on the immediately preceding December 31, or such lesser number of shares as determined by our compensation committee. This is referred to herein as the Annual Increase. This number will be subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

The shares we issue under the 2020 Plan will be authorized but unissued shares or shares that we reacquire. The shares of common stock underlying any awards that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by us prior to vesting, satisfied without any issuance of stock, expire or are otherwise terminated (other than by exercise) under the 2020 Plan and the 2015 Plan will be added back to the shares of common stock available for issuance under the 2020 Plan.

The maximum aggregate number of shares that may be issued in the form of incentive stock options may not exceed the Initial Limit cumulatively increased on January 1, 2021, and on each January 1 thereafter by the lesser of (i) the Annual Increase for such year or (ii) shares of common stock.

The grant date fair value of all awards made under our 2020 Plan and all other cash compensation paid by us to any non-employee director in any calendar year may not exceed $ for the first year of service and $ for each year of service thereafter.

The 2020 Plan will be administered by our compensation committee. Our compensation committee will have full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of the 2020 Plan. Persons eligible to participate in the 2020 Plan will be those full or part-time employees, non-employee directors and consultants of the Company and its affiliates, as selected from time to time by our compensation committee in its discretion.

The 2020 Plan will permit the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Internal Revenue Code and options that do not so qualify. The option exercise price of each option will be determined by our compensation committee but may not be less than 100% of the fair market value of our common stock on the date of grant. The term of each option will be fixed by our compensation committee and may not exceed ten years from the date of grant. Our compensation committee will determine at what time or times each option may be exercised.

Our compensation committee will be able to award stock appreciation rights subject to such conditions and restrictions as it may determine. Stock appreciation rights will entitle the recipient to shares of common stock or cash, equal to the value of the appreciation in our stock price over the exercise price. The exercise price of each stock appreciation right may not be less than 100% of the fair market value of the common stock on the date of grant. The term of each stock appreciation right will be fixed by our compensation committee and may not exceed ten years from the date of grant. Our compensation committee will determine at what time or times each stock appreciation right may be exercised.

Our compensation committee will be able to award restricted shares of common stock and restricted stock units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and/or continued employment or service relationship with us through a specified vesting period. Our compensation committee may also be permitted to grant shares of common stock that are free from any restrictions under the 2020 Plan. Unrestricted stock may be

granted to participants in recognition of past services or other valid consideration and may be issued in lieu of cash compensation due to such participant.

Our compensation committee will be able to grant cash bonuses under the 2020 Plan to participants, subject to the achievement of certain performance goals.

The 2020 Plan will provide that upon the effectiveness of a "sale event," as defined in the 2020 Plan, an acquirer or successor entity may assume, continue or substitute outstanding awards under the 2020 Plan. To the extent that awards granted under our 2020 Plan are not assumed or continued or substituted by the successor entity, except as may be otherwise provided in the relevant award certificate, all awards with time-based vesting, conditions or restrictions will become fully vested and nonforfeitable as of the effective time of the sale event, and all awards with conditions and restrictions relating to the attainment of performance goals may become vested and nonforfeitable in connection with a sale event in the compensation committee's discretion or to the extent specified in the relevant award certificate. Upon the effective time of the sale event, all outstanding awards granted under the 2020 Plan will terminate to the extent not assumed, continued or substituted for. In the event of such termination, individuals holding options and stock appreciation rights will be permitted to exercise such options and stock appreciation rights (to the extent exercisable) within a specified period of time prior to the sale event. In addition, in connection with the termination of the 2020 Plan upon a sale event, we may make or provide for a payment, in cash or in kind, to participants holding vested and exercisable options and stock appreciation rights equal to the difference between the per share cash consideration payable to stockholders in the sale event and the exercise price of the options or stock appreciation rights and we may make or provide for a payment, in cash or in kind, to participants holding other vested awards.

Our board of directors will be able to amend or discontinue the 2020 Plan and our compensation committee will be permitted, at any time, to amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose but no such action may adversely affect rights under an award without the holder's consent. The compensation committee is specifically authorized to exercise its discretion to reduce the exercise price of outstanding stock options or stock appreciation rights or effect the repricing of such awards through cancellation and re-grants. Certain amendments to the 2020 Plan will require the approval of our stockholders.

No awards will be granted under the 2020 Plan after the date that is 10 years from the date of stockholder approval. No awards under the 2020 Plan will be made prior to the date of this prospectus.

2015 Equity Incentive Plan

Our board of directors adopted, and our stockholders approved, our 2015 Plan, on August 19, 2015. Our 2015 Plan was most recently amended on December 16, 2019. The 2015 Plan allowed for the grant of incentive stock options to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units and other stock awards to employees, directors, and consultants, including employees and consultants of our affiliates, subject in each case to compliance with applicable tax laws.

Our 2020 Plan will become effective the day before the date that the registration statement of which this prospectus is part is declared effective by the SEC. As a result, we do not expect to grant any additional awards under the 2015 Plan following that date. Any awards granted under the 2015 Plan will remain subject to the terms of our 2015 Plan and applicable award agreements. As of December 31, 2018, options to purchase 809,200 shares of common stock and unexercised rights to purchase 32,600 shares of restricted stock were outstanding under the 2015 Plan.

The maximum number of shares of our common stock that may have been issued under our 2015 Plan was 24,179,365. The maximum number of shares of stock that may have been issued pursuant to the exercise of incentive stock options was three times such maximum number of shares. Shares subject to stock awards granted

under our 2015 Plan that expire, are forfeited, are repurchased or otherwise terminate without all the shares covered by such stock awards having been issued, or are settled in cash, do not reduce the number of shares available for issuance under our 2015 Plan. Additionally, shares used to pay the exercise price or purchase price of a stock award or shares reacquired by the Company to satisfy the tax withholding obligations related to a stock award will return to the share reserve under the 2015 Plan. The shares issuable pursuant to stock awards granted under the 2015 Plan are authorized but unissued or reacquired shares, including shares repurchased by the Company on the open market or otherwise.

The Company's board of directors or a duly authorized committee of our board of directors administers our 2015 Plan and the stock awards granted under it, and has the power to interpret and administer our 2015 Plan and any agreement thereunder and to determine the terms of awards, including the recipients, the number of shares subject to each award, the exercise, purchase or strike price, if any, the vesting schedule applicable to the awards together with any vesting acceleration and the terms of the award agreement for use under our 2015 Plan. Under the 2015 Plan, the board of directors also generally has the authority to effect, with the consent of any adversely affected participant, the reduction of the exercise price of any outstanding option or stock appreciation right, the cancellation of any outstanding option or stock appreciation right and the grant in substitution therefore of other awards, cash, or other consideration, or any other action that is treated as a repricing under generally accepted accounting principles.

Pursuant to the 2015 Plan and subject to applicable law, the plan administrator may, in its discretion, delegate to one of more of our officers, the power to designate non-officer employees as recipients of options and/or stock appreciation rights and to determine the number of shares subject to such stock awards to be granted to such employees; provided, however, the plan administrator must specify the total number of shares that may be subject to the stock awards granted by such officer and such officer may not grant options to himself or herself. The board of directors may not delegate the authority to determine the fair market value of our common stock.

Our 2015 Plan provides that in the event of certain specified significant corporate transactions, generally including: (i) a sale of all or substantially all of our assets, (ii) the sale or disposition of at least 90% of our outstanding securities, (iii) the consummation of a merger or consolidation where we do not survive the transaction, and (iv) the consummation of a merger or consolidation where we do survive the transaction but the shares of common stock outstanding before such transaction are converted or exchanged into other property by virtue of the transaction, unless otherwise provided in an award agreement or other written agreement between us and the award holder, the administrator may take one or more of the following actions with respect to such stock awards: (A) arrange for the assumption, continuation or substitution of a stock award by a successor corporation, (B) arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation, (C) accelerate the vesting, in whole or in part, of the stock award and provide for its termination before the transaction, (D) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us, (E) cancel or arrange for the cancellation of the stock award before the transaction in exchange for a cash payment, if any, determined by the board of directors, or (F) make a payment, in the form determined by the board of directors, equal to the excess, if any, of the value of the property the participant would have received on exercise of the stock award before the transaction over any exercise price payable by the participant in connection with the exercise. The plan administrator is not obligated to treat all stock awards, even those that are of the same type, or all participants, in the same manner. In the event of a change in control, awards granted under the 2015 Plan will not receive automatic acceleration of vesting and exercisability, although the board of directors may provide for this treatment in an award agreement. Under the 2015 Plan, a change in control is defined to include (i) the acquisition by any person of more than 50% of the combined voting power of our then outstanding stock, (ii) a merger, consolidation, or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity), or (iii) a sale, lease, exclusive license, or other disposition of all or substantially all of the assets to an entity that did not previously hold more than 50% of the voting power of our stock.

Under our 2015 Plan, the board of directors may provide for limitations on the transferability of awards, in its sole discretion. Option awards are generally not transferable other than by will or the laws of descent and distribution, except as otherwise provided under our 2015 Plan.

Our board of directors has the authority to amend, suspend, or terminate our 2015 Plan, although certain material amendments require the approval of our stockholders, and amendments that would impair the rights of any participant require the written consent of that participant.

Our board of directors has determined not to make any further awards under the 2015 Plan following the completion of this offering.

2020 Employee Stock Purchase Plan

In connection with this offering, our board of directors plans to adopt a 2020 Employee Stock Purchase Plan, or the 2020 ESPP, which will become effective on the date immediately prior to the date on which the registration statement of which this prospectus is part is declared effective by the SEC. The 2020 ESPP will initially reserve and authorize the issuance of up to a total of shares of common stock to participating employees. The 2020 ESPP will provide that the number of shares reserved and available for issuance will automatically increase each January 1, beginning on January 1, 2021, by the least of shares of our common stock, % of the outstanding number of shares of our common stock on the immediately preceding December 31, or such lesser number of shares as determined by our compensation committee. This number will be subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

All employees whose customary employment is for more than hours per week and who have completed at least days of employment will be eligible to participate in the 2020 ESPP. Any employee who owns 5% or more of the total combined voting power or value of all classes of stock will not be eligible to purchase shares under the 2020 ESPP.

We will make one or more offerings, consisting of one or more purchase periods, each year to our employees to purchase shares under the 2020 ESPP. Offerings will usually begin every six months and will continue for six-month periods, referred to as offering periods. Each eligible employee may elect to participate in any offering by submitting an enrollment form at least 15 business days before the relevant offering date.

Each employee who is a participant in the 2020 ESPP may purchase shares by authorizing contributions of between 1% and % of his or her compensation during an offering period. Unless the participating employee has previously withdrawn from the offering, his or her accumulated contributions will be used to purchase shares on the last business day of the purchase period at a price equal to 85% of the fair market value of the shares on the first business day of the offering period or the last business day of the purchase period, whichever is lower, provided that no more than shares of common stock (or a lesser number as established by the plan administrator in advance of the purchase period) may be purchased by any one employee during each purchase period. Under applicable tax rules, an employee may purchase no more than $25,000 worth of shares of common stock, valued at the start of the offering period, under the 2020 ESPP for each calendar year in which a purchase right is outstanding.

The accumulated contributions of any employee who is not a participant on the last day of a purchase period will be refunded. An employee's rights under the 2020 ESPP terminate upon voluntary withdrawal from the plan or when the employee ceases employment with us for any reason.

The 2020 ESPP may be terminated or amended by our board of directors at any time, but will automatically terminate on the 10-year anniversary of this offering. An amendment that increases the number of shares of common stock that are authorized under the 2020 ESPP and certain other amendments will require the approval of our stockholders. The plan administrator may adopt subplans under the 2020 ESPP for employees of our non-U.S. subsidiaries.

Senior Executive Cash Incentive Bonus Plan

In connection with this offering, our board of directors plans to adopt a Senior Executive Cash Incentive Bonus Plan, or the Bonus Plan. The Bonus Plan will provide for cash bonus payments based upon the attainment

of performance targets established by our compensation committee. The payment targets will be related to financial and operational measures or objectives with respect to our company, or corporate performance goals, as well as individual performance objectives.

Our compensation committee may select corporate performance goals from among the following: developmental, publication, clinical or regulatory milestones; cash flow (including, but not limited to, operating cash flow and free cash flow); revenue; corporate revenue; earnings before interest, taxes, depreciation and amortization; net income (loss) (either before or after interest, taxes, depreciation and/or amortization); changes in the market price of our common stock; economic value-added; acquisitions, licenses or strategic transactions; financing or other capital raising transactions; operating income (loss); return on capital, assets, equity, or investment; stockholder returns; return on sales; total shareholder return; gross or net profit levels; productivity; expense efficiency; margins; operating efficiency; customer satisfaction; working capital; earnings (loss) per share of the company's common stock; bookings, new bookings or renewals; sales or market shares; number of prescriptions or prescribing physicians; coverage decisions; leadership development, employee retention and recruiting and other human resources matters; operating income and/or net annual recurring revenue, any of which may be measured in absolute terms, as compared to any incremental increase, in terms of growth, as compared to results of a peer group, against the market as a whole, compared to applicable market indices and/or measured on a pre-tax or post-tax basis.

Each executive officer who is selected to participate in the Bonus Plan will have a target bonus opportunity set for each performance period. The bonus formulas will be adopted in each performance period by the compensation committee and communicated to each executive. The corporate performance goals will be measured at the end of each performance period after our financial reports have been published. If the corporate performance goals and individual performance objectives are met, payments will be made as soon as practicable following the end of each performance period, but not later than two and one-half (2 1/2) months after the end of the fiscal year in which such performance period ends. Subject to the rights contained in any agreement between the executive officer and us, an executive officer must be employed by us on the bonus payment date to be eligible to receive a bonus payment. The Bonus Plan will also permits the compensation committee to approve additional bonuses to executive officers in its sole discretion.

DIRECTOR COMPENSATION

Non-Employee Director Compensation Program

During the fiscal year ended December 31, 2019, we provided compensation to our non-employee directors for their services on our board of directors, other than those associated with Third Rock Ventures or Cowen, pursuant to our non-employee director compensation policies.

Our non-employee director compensation policies generally provide for an annual $25,000 cash retainer; however, Dr. Huh's non-employee director compensation policy did not provide for any cash retainers.

In addition, upon initial election to our board of directors, Drs. Bruhn, Curnutte and Huh were granted a certain number of shares of our restricted common stock (approximately 180,000 shares for Drs. Bruhn and Curnutte and 668,228 shares for Dr. Huh) and Ms. Shah was granted an option to purchase 180,000 shares of our common stock, together, the Initial Pre-IPO Director Grants. Ms. Crowell did not receive an Initial Pre-IPO Director Grant. The Initial Pre-IPO Director Grants vest on the last date of each calendar quarter after the applicable non-employee director's commencement of his or her service to the Company, at a rate of approximately 11,250 shares for Ms. Shah and Drs. Bruhn and Curnutte and 41,768 for Dr. Huh, subject to continued service to the Company through each applicable vesting date. Upon a "sale event" (as defined in the applicable non-employee director compensation policy), the Initial Pre-IPO Director Grants will vest in full.

On or following each anniversary of the Initial Pre-IPO Director Grant, continuing non-employee directors are generally entitled to receive a grant of an option to purchase approximately 25,000 shares of our common stock, or an Annual Pre-IPO Director Grants. During the fiscal year ended December 31, 2019, Drs. Bruhn and Curnutte were each granted an option to purchase approximately 25,000 shares of our common stock as their Annual Pre-IPO Director Grant; however Dr. Huh did not receive an Annual Pre-IPO Director Grant. The Annual Pre-IPO Director Grants vest in equal quarterly installments over one year from the date of grant, subject to the applicable director's continued service to the Company through each applicable vesting date. Upon a sale event, such grants will vest in full. In addition to her Annual Pre-IPO Director Grant, in March 2019, Dr. Bruhn received an option to purchase 29,000 shares of our common stock, which was fully vested as of the date of grant.

Employee directors received no additional compensation for their service as a director.

We reimbursed all reasonable out-of-pocket expenses incurred by directors for their attendance at meetings of our board of directors or any committee thereof.

We plan to adopt a new non-employee director compensation policy which will become effective immediately prior to the completion of this offering, pursuant to which our non-employee directors will be eligible to receive certain cash retainers (which will be prorated for partial years of service) and equity awards.

Non-Employee Director Compensation Table

The following table provides information regarding the total compensation that was earned by or paid to each of our non-employee directors during the fiscal year ended December 31, 2019. Dr. Coulie, who is our Chief Executive Officer, did not receive any additional compensation for his service as a director. The compensation received by Dr. Coulie, as a named executive officer of the Company, is presented in "Executive Compensation —2019 Summary Compensation Table" above.

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(1)	All Other Compensation ($)	Total ($)
Suzanne Bruhn, Ph.D.(2)	25,000	37,697		62,697
John Curnutte, M.D.(3)	25,000	17,110		42,110
Neil Exter(4)				
Charles Homcy, M.D.(5)	23,920			23,920
Hoyoung Huh, M.D.(6)				
Kevin Raidy(7)				
Smital Shah(8)	20,576	132,498		153,074
Gayle Crowell(9)	883			883

(1) The amounts reported represent the aggregate grant date fair value of the stock option awards granted to the non-employee directors in the fiscal year ended December 31, 2019, calculated in accordance with FASB ASC Topic 718. Such grant date fair values do not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value of the stock option awards reported in this column are set forth in note 11 to our consolidated financial statements included elsewhere in this prospectus. The amounts reported in this column reflect the accounting cost for these stock option awards and do not correspond to the actual economic value that may be received by the non-employee directors upon the vesting of the stock option awards or any sale of the underlying shares of common stock.

(2) As of December 31, 2019, Dr. Bruhn held 209,350 shares of restricted stock and options to purchase 54,000 shares of our common stock.

(3) As of December 31, 2019, Dr. Curnutte held 209,350 shares of restricted stock and an option to purchase 25,000 shares of our common stock.

(4) As of December 31, 2019, Mr. Exter did not hold any outstanding equity awards.

(5) Dr. Homcy provided us with technical consulting services and received fees for such services. As of December 31, 2019, Dr. Homcy held 500,000 shares of restricted stock.

(6) As of December 31, 2019, Dr. Huh held 713,288 shares of restricted stock.

(7) As of December 31, 2019, Mr. Raidy did not hold any outstanding equity awards.

(8) Ms. Shah has served as a member of the board of directors since March 2019 and her board fees were prorated accordingly. As of December 31, 2019, Ms. Shah held an option to purchase 180,000 shares of our common stock.

(9) Ms. Crowell has served as a member of the board of directors since December 2019 and her board fees were prorated accordingly. As of December 31, 2019, Ms. Crowell did not hold any outstanding equity awards

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

In addition to the compensation arrangements, including employment, termination of employment and change in control arrangements, with our directors and executive officers, including those discussed in the sections entitled "Management" and "Executive and Director Compensation," and the registration rights described in the section entitled "Description of Capital Stock—Registration Rights," the following is a description of each transaction since January 1, 2017 and each currently proposed transaction in which:

- we have been or are to be a participant;
- the amounts involved exceeded or will exceed $120,000; and
- any of our directors, executive officers or holders of more than 5% of our capital stock, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Private Placements of Securities

Series A redeemable convertible preferred stock financing

From August 2015 through March 2018, we sold an aggregate of 56,000,000 shares of our Series A redeemable convertible preferred stock at a purchase price of $1.00 per share, for an aggregate purchase price of $56.0 million.

All purchasers of our Series A redeemable convertible preferred stock are entitled to specified registration rights. See the section entitled "Description of Capital Stock—Registration Rights" for more information regarding these registration rights.

The following table summarizes the Series A redeemable convertible preferred stock purchased by members of our board of directors or their affiliates and holders of more than 5% of our outstanding capital stock.

Name of stockholder	Shares of Series A redeemable convertible preferred stock	Total purchase price
Entities affiliated with Third Rock Ventures(1)	55,000,000	$ 55,000,000
pH Pharma Co., Ltd.(2)	1,000,000	$ 1,000,000

(1) Consists of 39,750,000 shares held by Third Rock Ventures III, L.P., or TRV III, and 15,250,000 shares held by Third Rock Ventures IV, L.P., or TRV IV.
(2) Hoyoung Huh, M.D., Ph.D., our lead director, has a majority ownership in pH Pharma Co. Ltd., or pH Pharma, and has voting power over the shares.

Series B redeemable convertible preferred stock financing

From July 2018 through November 2018, we sold an aggregate of 49,501,221 shares of our Series B redeemable convertible preferred stock at a purchase price of $1.3767 per share, for an aggregate purchase price of approximately $68.1 million.

All purchasers of our Series B redeemable convertible preferred stock are entitled to specified registration rights. See the section entitled "Description of Capital Stock—Registration Rights" for more information regarding these registration rights.

The following table summarizes the Series B redeemable convertible preferred stock purchased by members of our board of directors or their affiliates and holders of more than 5% of our outstanding capital stock.

Name of stockholder	Shares of Series B redeemable convertible preferred stock	Total purchase price
Entities affiliated with Cowen Healthcare Investments(1)	10,895,619	$ 14,999,999
Entities affiliated with Eventide Asset Management LLC(2)	10,895,619	$ 14,999,999
Bernard Coulie and Barbara Leyman, as Trustees of The Coulie/Leyman Family Trust(3)	181,594	$ 250,000
Hans Hull	36,319	$ 50,000

(1) Consists of (a) 10,154,302 shares of Series B convertible preferred stock held by Cowen Healthcare Investments II LP, or Cowen II and (b) 741,317 shares of Series B convertible preferred stock held by CHI EF II LP, or CHI EF II. Cowen Healthcare Investments II GP LLC is the sole general partner of Cowen II and CHI EF II.
(2) Consists of (a) 7,263,746 shares of Series B convertible preferred stock held by Eventide Gilead Fund and (b) 3,631,873 shares of Series B convertible preferred stock held by Eventide Healthcare & Life Science Fund. Eventide Gilead Fund and Eventide Healthcare & Life Sciences Fund are registered investment companies for which Eventide Asset Management, LLC acts as investment advisor. Eventide Asset Management, LLC has voting and investment power with respect to the shares.
(3) Consists of 181,594 shares of Series B convertible preferred stock held by Bernard Coulie and Barbara Leyman, as Trustees of The Coulie/Leyman Family Trust, or Coulie/Leyman Family Trust, of which Dr. Coulie and his spouse are the sole trustees.

Series C redeemable convertible preferred stock financing

From December 2019 through February 2020, we sold an aggregate of 54,888,058 shares of our Series C redeemable convertible preferred stock at a purchase price of $1.83 per share, for an aggregate purchase price of approximately $100.4 million.

All purchasers of our Series C redeemable convertible preferred stock are entitled to specified registration rights. See the section entitled "Description of Capital Stock—Registration Rights" for more information regarding these registration rights.

The following table summarizes the Series C redeemable convertible preferred stock purchased by our executive officers, members of our board of directors or their affiliates and holders of more than 5% of our outstanding capital stock.

Name of stockholder	Shares of Series C redeemable convertible preferred stock	Total purchase price
Entities affiliated with Novartis(1)	10,928,962	$ 20,000,000
Entities affiliated with Cowen Healthcare Investments(2)	2,723,240	$ 4,999,999.20
Entities affiliated with Eventide Asset Management LLC(3)	5,464,480	$ 9,999,998.40
Redmile Biopharma Investments II, L.P.	13,661,202	$ 24,999,999.66
Keith Cummings	27,322	$ 49,999.26
Hans Hull	27,322	$ 49,999.26
Barbara Howes	27,322	$ 49,999.26

(1) Consists of 10,928,962 shares of Series C redeemable convertible preferred stock held by Novartis
(2) Consists of (a) 2,548,025 shares of Series C redeemable convertible preferred stock held by Cowen Healthcare Investments II LP, or Cowen II and (b) 184,215 shares of Series C convertible preferred stock held by CHI EF II LP, or CHI EF II. Cowen Healthcare Investments II GP LLC is the sole general partner of Cowen II and CHI EF II.
(3) Consists of (a) 3,825,136 shares of Series C redeemable convertible preferred stock held by Mutual Fund Series Trust, on behalf of Eventide Gilead Fund, and (b) 1,639,344 shares of Series C redeemable convertible preferred stock held by Mutual Fund Series Trust, on behalf of Eventide Healthcare & Life Sciences Fund. Eventide Gilead Fund and Eventide Healthcare & Life Sciences Fund are registered investment companies for which Eventide Asset Management, LLC acts as investment advisor. Eventide Asset Management, LLC has voting and investment power with respect to the shares.

Agreements with Stockholders

Investors' rights agreement

In December 2019, we entered into an Amended and Restated Investors' Rights Agreement, as amended to date, which we refer to as our investors' rights agreement, with certain holders of our outstanding redeemable convertible preferred stock, including entities with which certain of our directors are affiliated. After the completion of this offering, the holders of shares of our common stock issuable in connection with the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into common stock, are entitled to rights with respect to the registration of their shares following this offering under the Securities Act. See the section entitled "Description of Capital Stock—Registration Rights" for more information regarding these registration rights.

Right of first refusal and co-sale agreement

In December 2019, we entered into an Amended and Restated Right of First Refusal and Co-Sale Agreement, as amended to date, which we refer to as our right of first refusal and co-sale agreement, which imposes restrictions on the transfer of our capital stock. Upon the completion of this offering, the right of first refusal and co-sale agreement will terminate and the restrictions on the transfer of our capital stock set forth in this agreement will no longer apply.

Voting agreement

In December 2019, we entered into an Amended and Restated Voting Agreement, as amended to date, which we refer to as our voting agreement, under which certain holders of our capital stock, including persons who hold more than 5% of our outstanding capital stock and entities with which certain of our directors are affiliated, have agreed to vote their shares on certain matters, including with respect to the election of directors. Upon the completion of this offering, the voting agreement will terminate and none of our stockholders will have any special rights regarding the election or designation of members of our board of directors or the voting of our capital stock of the company.

Consulting or research agreements with related parties

Certain employees of Third Rock Ventures, one of our stockholders, provide consulting services to us. Consulting service expenses of $54,000 and $36,000 were recorded for the years ended December 31, 2018 and 2019, respectively. The consulting fees were paid in consideration for certain ordinary course business operations and management consulting services provided to us from time to time by individuals related to Third Rock Ventures. There is no written agreement for the services provided to us by Third Rock Ventures.

Charitable contributions

In 2018 and 2019, we made charitable contributions to the University of California, San Francisco Foundation ("UCSF Foundation"), which were directed to support research performed in the laboratories of two of our scientific founders. Charitable contributions made to the UCSF Foundation were $0.5 million and $0.3 million during the years ended December 31, 2018 and 2019, respectively, which were directed to support research performed in the laboratories of two of our scientific founders.

Executive Officer and Director Compensation

See the sections entitled "Executive Compensation" and "Director Compensation" for information regarding compensation of our executive officers and directors.

Other Relationships

Other than as described above, since January 1, 2017, we have not entered into any transactions, nor are there any currently proposed transactions, between us and a related party where the amount involved exceeds, or would exceed, $120,000, and in which any related person had or will have a direct or indirect material interest.

Indemnification Agreements

In connection with this offering, we intend to enter into new agreements to indemnify our directors and executive officers. These agreements and our amended and restated certificate of incorporation and amended and restated bylaws will, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our company or that person's status as a member of our board of directors to the maximum extent allowed under Delaware law.

Policies for Approval of Related Party Transactions

Prior to this offering, we have not had a formal policy regarding approval of transactions with related parties. Prior to the completion of this offering, we expect to adopt a written related person transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related person transactions. The policy will become effective immediately upon the execution of the underwriting agreement for this offering. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were, or will be participants and in which the amount involved exceeds $120,000. Transactions involving compensation for services provided to us as an employee or director are not covered by this policy. A related person is any executive officer, director, or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons.

Under the policy, if a transaction has been identified as a related person transaction, including any transaction that was not a related person transaction when originally consummated or any transaction that was not initially identified as a related person transaction prior to consummation, our management must present information regarding the related person transaction to our audit committee, or, if audit committee approval would be inappropriate, to another independent body of our board of directors, for review, consideration, and approval or ratification. The presentation must include a description of, among other things, the material facts, the interests, direct and indirect, of the related persons, the benefits to us of the transaction, and whether the transaction is on terms that are comparable to the terms available to or from, as the case may be, an unrelated third party or to or from employees generally. Under the policy, we will collect information that we deem reasonably necessary from each director, executive officer, and, to the extent feasible, significant stockholder to enable us to identify any existing or potential related person transactions and to effectuate the terms of the policy.

In addition, under our Code of Conduct, which we intend to adopt in connection with this offering, our employees and directors have an affirmative responsibility to disclose any transaction or relationship that reasonably could be expected to give rise to a conflict of interest.

In considering related person transactions, our audit committee, or other independent body of our board of directors, will take into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs, and benefits to us;
- the impact on a director's independence in the event that the related person is a director, immediate family member of a director, or an entity with which a director is affiliated;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties or to or from employees generally.

The policy requires that, in determining whether to approve, ratify, or reject a related person transaction, our audit committee, or other independent body of our board of directors, must consider, in light of known circumstances, whether the transaction is in, or is not inconsistent with, our best interests and those of our stockholders, as our audit committee, or other independent body of our board of directors, determines in the good faith exercise of its discretion. All of the transactions described above were entered into prior to the adoption of the written policy, but all were approved by our board of directors considering similar factors to those described above.

PRINCIPAL STOCKHOLDERS

The following table presents information concerning the beneficial ownership of the shares of our common stock as of March 31, 2020 by:

- each person we know to be the beneficial owner of 5% or more of our outstanding shares of our capital stock;
- each of our directors;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

We have determined beneficial ownership in accordance with SEC rules. The information does not necessarily indicate beneficial ownership for any other purpose. Under these rules, a person is deemed to be a beneficial owner of our common stock if that person has a right to acquire ownership within 60 days by the exercise of options or the conversion of our redeemable convertible preferred stock. A person is also deemed to be a beneficial owner of our common stock if that person has or shares voting power, which includes the power to vote or direct the voting of our common stock, or investment power, which includes the power to dispose of or to direct the disposition of such capital stock. Except in cases where community property laws apply or as indicated in the footnotes to this table, we believe that each stockholder identified in the table possesses sole voting and investment power over all shares of common stock shown as beneficially owned by the stockholder.

Percentage of beneficial ownership in the table below is based on 175,721,504 shares of common stock deemed to be outstanding as of March 31, 2020, assuming the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into common stock, immediately prior to the completion of this offering. The table below assumes that the underwriters do not exercise their option to purchase additional shares. Shares of common stock subject to options that are currently exercisable or exercisable within 60 days of March 31, 2020 are considered outstanding and beneficially owned by the person holding the options for the purpose of computing the percentage ownership of that person but are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated below, the address of each individual listed below is c/o Pliant Therapeutics, Inc., 260 Littlefield Avenue, South San Francisco, California 94080.

Name and address of beneficial owner	Number of shares beneficially owned	Percentage of shares beneficially owned before offering	Percentage of shares beneficially owned after offering
5% or Greater Stockholders:			
Entities affiliated with Third Rock Ventures(1)	57,000,000	32.4%	%
Entities affiliated with Eventide Asset Management LLC(2)	16,360,099	9.3%	%
Redmile Biopharma Investments II, L.P.(3)	13,661,202	7.8%	%
Entities affiliated with Cowen Healthcare Investments(4)	13,627,859	7.8%	%
Novartis Institutes for BioMedical Research, Inc.(5)	10,928,962	6.2%	%
Named Executive Officers and Directors:			
Bernard Coulie, M.D., Ph.D.(6)	4,380,914	2.5%	%
Keith Cummings, M.D., MBA(7)	571,118	*	
Hans Hull, J.D.(8)	1,426,120	*	%
Hoyoung Huh, M.D., Ph.D.(9)	1,713,288	1.0%	%
Suzanne Bruhn, Ph.D.(10)	311,918	*	%
John Curnutte, M.D.(11)	240,640	*	%
Neil Exter(12)	—	—	%
Charles Homcy, M.D.(13)	524,670	*	%
Kevin Raidy(4)	13,627,859	7.8	%
Smital Shah(14)	67,331	*	%
Gayle Crowell(15)	22,500	*	%
All executive officers and directors as a group (13 persons)(16)	24,392,643	13.7%	%

* Represents beneficial ownership of less than one percent.

(1) Consists of (a) 2,000,000 shares of common stock held by TRV III, (b) 39,750,000 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by TRV III and (c) 15,250,000 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by TRV IV. The general partner of TRV III is Third Rock Ventures GP III, L.P., or TRV GP III LP. The general partner of TRV GP III LP is TRV GP III, LLC, or TRV GP III LLC. Mark Levin, Kevin Starr and Robert Tepper, M.D. are the managing members of TRV GP III LLC who collectively make voting and investment decisions with respect to shares held by TRV III. Each of TRV GP III LP, TRV GP III LLC, Mr. Levin, Mr. Starr and Dr. Tepper disclaims beneficial ownership of the shares held by TRV III, except to the extent of its or his proportionate pecuniary interest therein, if any. The general partner of TRV IV is Third Rock Ventures GP IV, L.P., or TRV GP IV LP. The general partner of TRV GP IV LP is TRV GP IV, LLC, or TRV GP IV LLC. Abbie Celniker, Ph.D., Dr. Tepper, Craig Muir and Cary Pfeffer, M.D. are the managing members of TRV GP IV LLC who collectively make voting and investment decisions with respect to shares held by TRV IV. Each of TRV GP IV LP, TRV GP IV LLC, Dr. Celniker, Dr. Tepper, Mr. Muir and Dr. Pfeffer disclaims beneficial ownership of the shares held by TRV IV, except to the extent of its, his or her proportionate pecuniary interest therein, if any. The address for TRV III and TRV IV is 29 Newbury Street, Suite 401, Boston, Massachusetts 02116.

(2) Consists of (a) 7,263,746 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Eventide Gilead Fund, (b) 3,631,873 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Eventide Healthcare & Life Science Fund, (c) 3,825,136 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by Eventide Gilead Fund and (d) 1,639,344 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by Eventide Healthcare & Life Science Fund. Eventide Gilead Fund and Eventide Healthcare & Life Sciences Fund are registered investment companies for which Eventide Asset Management, LLC acts as investment advisor. Eventide Asset Management, LLC has voting and investment power with respect to the shares. The principal business address of each of Eventide Gilead Fund and Eventide Healthcare & Life Science Fund is One International Place, Suite #3510, Boston, MA 02110.

(3) Consists of 13,661,202 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by Redmile Biopharma Investments II, L.P. Redmile Group, LLC is the investment manager/adviser to Redmile Biopharma Investments II, L.P. and, in such capacity, exercises sole voting and investment power over all of the shares held by the Redmile Biopharma Investments II, L.P. and may be deemed to be the beneficial owner of these shares. Jeremy C. Green serves as the managing member of Redmile Group, LLC and also may be deemed to be the beneficial owner of these shares. Redmile Group, LLC and Mr. Green each disclaim beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any.

(4) Consists of (a) 10,154,302 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Cowen II, (b) 741,317 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by CHI EF II, (c) 2,548,025 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by Cowen II and (d) 184,215 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by CHI EF II. Cowen Healthcare Investments II GP LLC is the sole general partner of Cowen II and CHI EF II. As managing partner of Cowen II and CHI EF II, Kevin J. Raidy exercises sole voting and investment power of the securities held by Cowen II and CHI EF II. Mr. Raidy disclaims beneficial ownership of the shares held by Cowen II and CHI EF II, except to the extent of any actual pecuniary interest. The address for Cowen II and CHI EF II is 599 Lexington Avenue, New York, New York 10022.

(5) Consists of 10,928,962 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by Novartis. Novartis is an indirect wholly owned subsidiary of, and controlled by, Novartis AG. The address for Novartis is 250 Massachusetts Avenue, Cambridge, MA 02139.

(6) Consists of (a) 181,594 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Coulie/Leyman Family Trust, of which Dr. Coulie and his spouse are the sole trustees, (b) 3,209,780 shares of common stock held by Coulie/Leyman Family Trust, of which 225,000 shares are subject to repurchase by us at the original purchase price as of March 31, 2020 and (c) 989,540 shares of common stock underlying options held by Dr. Coulie exercisable within 60 days of March 31, 2020.

(7) Consists of 543,796 shares of common stock underlying options held by Dr. Cummings exercisable within 60 days of March 31, 2020.

(8) Consists of (a) 36,319 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Mr. Hull (b) 27,322 shares of common stock issuable upon conversion of Series C redeemable convertible preferred stock held by The Sloger Hull Family Trust, of which Mr. Hull and his spouse are the trustees,

(b) 1,002,000 shares of common stock held by Mr. Hull, of which 37,500 shares are subject to repurchase by us at the original purchase price as of March 31, 2020 and (c) 360,479 shares of common stock underlying options held by Mr. Hull exercisable within 60 days of March 31, 2020.

(9) Consists of (a) 1,000,000 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by pH Pharma Co., Ltd., or pH Pharma and (b) 713,288 shares of common stock held by pH Pharma, of which 250,608 shares are subject to repurchase by us at the original purchase price as of March 31, 2020. Dr. Huh has a majority ownership in pH Pharma and also has voting power over the shares. Dr. Huh disclaims beneficial ownership of the shares held by pH Pharma, except to the extent of his proportionate pecuniary interest therein. The address for pH Pharma is 9th Fl., The-K Twin Towers, Tower A 50 Jongro 1-gil, Jongno-gu, Seoul 03142, Korea.

(10) Consists of (a) 250,850 shares of common stock held by Dr. Bruhn, of which 11,250 shares are subject to repurchase by us at the original purchase price as of March 31, 2020 and (b) 19,568 shares of common stock underlying options held by Dr. Bruhn exercisable within 60 days of March 31, 2020.

(11) Consists of (a) 209,350 shares of common stock held by Dr. Curnutte, of which 56,250 shares are subject to repurchase by us at the original purchase price as of March 31, 2020 and (b) 31,290 shares of common stock underlying options held by Dr. Curnutte exercisable within 60 days of March 31, 2020.

(12) Mr. Exter is a partner of Third Rock Ventures. Mr. Exter does not have voting or investment power over any of the shares directly held by TRV III and TRV IV referenced in footnote (1) above.

(13) Consists of (a) 500,000 shares of common stock held by Dr. Homcy, and (b) 24,670 shares of common stock underlying options held by Dr. Homcy exercisable within 60 days of March 31, 2020. Dr. Homcy was a partner of Third Rock Ventures until October 2019 and now serves in an advisory capacity. Dr. Homcy does not have voting or investment power over any of the shares directly held by TRV III and TRV IV referenced in footnote (1) above.

(14) Consists of 67,331 shares of common stock underlying options held by Ms. Shah exercisable within 60 days of March 31, 2020.

(15) Consists of 22,500 shares of common stock underlying options held by Ms. Crowell exercisable within 60 days of March 31, 2020.

(16) See footnotes 6 through 14 above; also includes Éric Lefebvre and Barbara Howes, who are executive officers but not named executive officers.

DESCRIPTION OF CAPITAL STOCK

Upon the completion of this offering, our authorized capital stock will consist of shares of common stock, par value $0.0001 per share, and shares of preferred stock, par value $0.0001 per share, all of which will be undesignated, and there will be shares of common stock outstanding and no shares of preferred stock outstanding. As of March 1, 2020, we had approximately 122 record holders of our capital stock. All of our outstanding shares of redeemable convertible preferred stock will convert into shares of our common stock immediately prior to the completion of this offering. In addition, upon the completion of this offering, options to purchase shares of our common stock will be outstanding and shares of our common stock will be reserved for future grants under our equity incentive plans.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and bylaws are summaries of material terms and provisions and are qualified by reference to our amended and restated certificate of incorporation and bylaws, copies of which have been filed with the SEC as exhibits to the registration statement of which this prospectus is a part. The descriptions of our common stock and preferred stock reflect amendments to our amended and restated certificate of incorporation and bylaws that will become effective immediately prior to the completion of this offering.

Common Stock

Upon the completion of this offering, we will be authorized to issue one class of common stock. Holders of our common stock are entitled to one vote for each share of common stock held of record for the election of directors and on all matters submitted to a vote of stockholders. Except as described under “Anti-takeover Effects of Delaware Law and Provisions of our Amended and Restated Certificate of Incorporation and Bylaws” below, a majority vote of the holders of common stock is generally required to take action under our amended and restated certificate of incorporation and bylaws. Holders of our common stock are entitled to receive dividends ratably, if any, as may be declared by our board of directors out of legally available funds, subject to any preferential dividend rights of any preferred stock then outstanding. Upon our dissolution, liquidation or winding up, holders of our common stock are entitled to share ratably in our net assets legally available after the payment of all our debts and other liabilities, subject to the preferential rights of any preferred stock then outstanding. Holders of our common stock have no preemptive, subscription, redemption or conversion rights and no sinking fund provisions are applicable to our common stock. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred stock

Immediately prior to completion of this offering, all outstanding shares of our redeemable convertible preferred stock will be converted into shares of our common stock. Upon the completion of this offering, our board of directors will be authorized, without action by the stockholders, to designate and issue up to an aggregate of shares of preferred stock in one or more series. Our board of directors can designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. The issuance of preferred stock, while providing flexibility in connection with possible future financings and acquisitions and other corporate purposes could, under certain circumstances, have the effect of restricting dividends on our common stock, diluting the voting power of our common stock, impairing the liquidation rights of our common stock, or delaying, deferring or preventing a change in control of our company, which might harm the market price of our common stock. See also “—Anti-takeover effects of Delaware Law and provisions of our amended and restated certificate of incorporation and bylaws—Provisions of our amended and restated certificate of incorporation and bylaws—Undesignated preferred stock” below.

Our board of directors will make any determination to issue such shares based on its judgment as to our company's best interests and the best interests of our stockholders. Upon the completion of this offering, we will have no shares of preferred stock outstanding and we have no current plans to issue any shares of preferred stock following completion of this offering.

Options

As of March 1, 2020, we had outstanding options to purchase 9,795,947 shares of our common stock, with a per share weighted-average exercise price of $0.45 under our 2015 Plan.

Registration Rights

Upon the completion of this offering, the holders of shares of our common stock, including shares issuable upon the automatic conversion of our redeemable convertible preferred stock, or their permitted transferees, which we refer to as our registrable securities, are entitled to rights with respect to the registration of these securities under the Securities Act. These rights are provided under the terms of the investor rights agreement. The investor rights agreement includes demand registration rights, short-form registration rights and piggyback registration rights. All fees, costs and expenses incurred in connection with registrations under the investor rights agreement will be borne by us, and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

Demand registration rights

Beginning 180 days after the effective date of this registration statement, the holders of our registrable securities are entitled to demand registration rights. Under the terms of our investor rights agreement, we will be required, upon the request of holders of at least a majority of our outstanding registrable securities, to file a registration statement and use commercially reasonable efforts to affect the registration of these shares for public resale. We are required to effect up to two registrations pursuant to this provision of the investor rights agreement.

Short form registration rights

Upon the completion of this offering, the holders of our registrable securities are also entitled to short form registration rights. Pursuant to our investor rights agreement, if we are eligible to file a registration statement on Form S-3, upon the request of holders of at least 20% of our outstanding registrable securities to sell registrable securities with an anticipated aggregate offering amount of at least $5.0 million net of certain expenses related to the offering, we will be required to use our commercially reasonable efforts to effect a registration of such shares. We are required to effect up to two registrations in any twelve month period pursuant to this provision of the investor rights agreement.

Piggyback registration rights

The holders of our registrable securities are entitled to piggyback registration rights. If we register any of our securities either for our own account or for the account of other security holders, the holders of our outstanding registrable securities are entitled to include their shares in the registration. Subject to certain exceptions contained in the investor rights agreement, we and the underwriters may limit the number of shares included in the underwritten offering if the underwriters determine that marketing factors require a limitation of the number of shares to be underwritten.

Indemnification

Our investor rights agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the

registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expenses of registration

We will pay the registration expenses, subject to certain limited exceptions contained in the investor rights agreement, of the holders of the shares registered pursuant to the demand, short form and piggyback registration rights described above, including the expenses of one counsel for the selling holders.

Expiration of registration rights

The registration rights granted under the investor rights agreement will terminate upon the earlier of (i) a deemed liquidation event, as defined in our amended and restated certificate of incorporation (as in effect prior to the completion of this offering) or certain other events constituting a sale of the company, (ii) at such time after our initial public offering when all registrable securities could be sold under Rule 144 of the Securities Act or a similar exemption without limitation during a three-month period without registration or (iii) the fifth anniversary of our initial public offering.

Anti-Takeover Effects of Delaware Law and Provisions of Our Amended and Restated Certificate of Incorporation and Bylaws

Certain provisions of the Delaware General Corporation Law and of our amended and restated certificate of incorporation and bylaws that will become effective immediately prior to the completion of this offering could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. These provisions might also have the effect of preventing changes in our board of directors or management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Delaware takeover statute

Upon completion of this offering, we will be subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or

- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge, exchange, mortgage or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Provisions of our amended and restated certificate of incorporation and bylaws

Our amended and restated certificate of incorporation and bylaws to be in effect immediately prior to completion of this offering will include a number of provisions that may have the effect of delaying, deferring or discouraging another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board composition and filling vacancies. In accordance with our amended and restated certificate of incorporation, our board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our amended and restated certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

No written consent of stockholders. Our amended and restated certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholder without holding a meeting of stockholders.

Meetings of stockholders. Our bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance notice requirements. Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days or more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. The notice must contain certain information specified in our bylaws.

Amendment to certificate of incorporation and bylaws. As required by the Delaware General Corporation Law, any amendment of our amended and restated certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our amended and restated certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, directors, limitation of liability and the amendment of our amended and restated certificate of incorporation must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority vote of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment, or, if the board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated preferred stock. Our amended and restated certificate of incorporation provides for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our amended and restated certificate of incorporation grants our board of directors' broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Exclusive forum. Our bylaws provide that the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on behalf of our company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to the company or our stockholders, (iii) any action asserting a claim against our company arising pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or bylaws, (iv) any action to interpret, apply, enforce, or determine the validity of our certificate of incorporation or bylaws, or (v) any action asserting a claim against our company governed by the internal affairs doctrine. This exclusive forum provision will not apply to any causes of action arising under the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Unless we consent in writing to the selection of an alternate forum, the United States District Court for the Northern District of California shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Although our bylaws contain the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Transfer agent and registrar

The transfer agent and registrar for our common stock is . The transfer agent and registrar's address is .

Listing

We have applied to list our common stock on The Nasdaq Global Market under the symbol "PLRX."

Limitations of liability and indemnification matters

For a discussion of liability and indemnification, see the section entitled "Management — Limitation on Liability and Indemnification Matters."

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Sale of Restricted Shares

Based on the number of shares of common stock outstanding as of March 1, 2020, upon completion of this offering, shares of common stock will be outstanding, assuming no exercise by the underwriters of their option to purchase additional shares and no exercise of options. All of the shares sold in this offering will be freely tradable. The remaining shares of common stock outstanding after this offering will be restricted as a result of securities laws or lock-up agreements as described below. Following the expiration of the lock-up period, all shares will be eligible for resale in compliance with Rule 144 or Rule 701 under the Securities Act. “Restricted securities” as defined under Rule 144 of the Securities Act were issued and sold by us in reliance on exemptions from the registration requirements of the Securities Act. These shares may be sold in the public market only if registered or qualified for an exemption from registration, such as under Rule 144 or Rule 701 under the Securities Act.

Rule 144

In general, a person who has beneficially owned restricted stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Persons who have beneficially owned restricted shares for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares then outstanding, which will equal approximately shares immediately after this offering assuming no exercise of the underwriters’ option to purchase additional shares, based on the number of shares outstanding as of March 1, 2020; or
- the average weekly trading volume of our common stock on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;

provided, in each case, that we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

Rule 701 under the Securities Act, or Rule 701, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under “Underwriting” included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Lock-up Agreements

In connection with this offering, we, each of our directors and executive officers, and holders of substantially all of our securities have agreed with the underwriters that for a period of 180 days following the date of this prospectus, subject to certain exceptions, we and they will not offer, sell, assign, transfer, pledge, contract to sell or otherwise dispose of or hedge any shares of our common stock or any securities convertible into or exchangeable for shares of our common stock. The representatives of the underwriters may, in their sole discretion, at any time, release all or any portion of the shares from the restrictions in this agreement.

Rule 10b5-1 Trading Plans

Following the completion of this offering, certain of our officers, directors and significant stockholders may adopt written plans, known as Rule 10b5-1 trading plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis to diversify their assets and investments. Under these 10b5-1 trading plans, a broker may execute trades pursuant to parameters established by the officer, director or stockholder when entering into the plan, without further direction from such officer, director or stockholder. Such sales would not commence until the expiration of the applicable lock-up agreements entered into by such officer, director or stockholder in connection with this offering.

Registration Rights

We are party to an investor rights agreement which provides that holders holding shares of our common stock, including shares issuable upon the automatic conversion of our redeemable convertible preferred stock, have the right to demand that we file a registration statement or request that their shares of our common stock be covered by a registration statement that we are otherwise filing. See the section entitled “Description of Capital Stock — Registration Rights” in this prospectus. Except for shares purchased by affiliates, registration of their shares under the Securities Act would result in these shares becoming freely tradable without restriction under the Securities Act immediately upon effectiveness of the registration, subject to the expiration of the lock-up period described above and in the section entitled “Underwriting” in this prospectus, and to the extent such shares have been released from any repurchase option that we may hold.

Equity Incentive Plans

As soon as practicable after the completion of this offering, we intend to file a Form S-8 registration statement under the Securities Act to register shares of our common stock subject to options and other equity awards outstanding or reserved for issuance under our equity incentive plans. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will thereupon be eligible for sale in the public markets, subject to Rule 144 limitations applicable to affiliates and any lock-up agreements. For a more complete discussion of our equity incentive plans, see “Executive and Compensation — Employee Benefits and Equity Compensation Plans.”

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock issued pursuant to this offering. For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock that is for U.S. federal income tax purposes:

- a non-resident alien individual;
- a foreign corporation or any other foreign organization taxable as a corporation for U.S. federal income tax purposes; or
- a foreign estate or trust, the income of which is not subject to U.S. federal income tax on a net income basis.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its tax advisor regarding the tax consequences of holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and, all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any such change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. There can be no assurance that the Internal Revenue Service, which we refer to as the IRS, will not challenge one or more of the tax consequences described herein. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset within the meaning of Section 1221 of the Code, generally property held for investment.

This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances including the alternative minimum tax, or the Medicare tax on net investment income, the timing of income accruals required under Section 451(b) of the Code, the rules regarding qualified small business stock within the meaning of Section 1202 of the Code and any election to apply Section 1400Z-2 of the Code to gains recognized with respect to shares of our common stock. This discussion also does not address any U.S. state, local or non-U.S. taxes or any other aspect of any U.S. federal tax other than the income tax. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt or governmental organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- "qualified foreign pension funds," or entities wholly-owned by a "qualified foreign pension fund";
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and partners and investors therein);

- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;
- persons who have elected to mark securities to market;
- persons who have a functional currency other than the U.S. dollar;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- certain U.S. expatriates.

This discussion is for general information only and is not tax advice. Accordingly, all prospective non-U.S. holders of our common stock should consult their tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on our common stock

Distributions, if any, on our common stock will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on sale or other taxable disposition of our common stock." Any such distributions will also be subject to the discussions below under the sections titled "Backup withholding and information reporting" and "Withholding and information reporting requirements—FATCA."

Subject to the discussion in the following two paragraphs in this section, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence. If we or another withholding agent apply over-withholding or if a non-U.S. holder does not timely provide us with the required certification, the non-U.S. holder may be entitled to a refund or credit of any excess tax withheld by timely filing an appropriate claim with the IRS.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing a U.S. tax return with the IRS.

Gain on sale or other taxable disposition of our common stock

Subject to the discussions below under "Backup withholding and information reporting" and "Withholding and information reporting requirements—FATCA," a non-U.S. holder generally will not be subject to any U.S. federal income tax on any gain realized upon such holder's sale or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed-base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on our common stock" also may apply;
- the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- we are, or have been, at any time during the five-year period preceding such sale of other taxable disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation," unless our common stock is regularly traded on an established securities market and the non-U.S. holder holds no more than 5% of our outstanding common stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above

Backup withholding and information reporting

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in "Distributions on our common stock," generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder

resides or is incorporated under the provisions of a specific treaty or agreement. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is filed with the IRS in a timely manner.

Withholding and information reporting requirements — FATCA

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act, or FATCA, generally imposes a U.S. federal withholding tax at a rate of 30% on payments of dividends on our common stock paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a "foreign financial institution," such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA. Under applicable U.S. Treasury regulations, withholding under FATCA currently applies to payments of dividends on our common stock. Currently proposed U.S. Treasury Regulations provide that FATCA withholding does not apply to gross proceeds from the disposition of property of a type that can produce U.S. source dividends or interest; however, prior versions of the rules would have made such gross proceeds subject to FATCA withholding. Taxpayers (including withholding agents) can currently rely on the proposed Treasury Regulations. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of this withholding tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

UNDERWRITING

Citigroup Global Markets Inc., Cowen and Company, LLC and Piper Sandler & Co. are acting as joint book-running managers of this offering and as representatives of the underwriters named below. Subject to the terms and conditions stated in the underwriting agreement dated the date of this prospectus, each underwriter named below has severally agreed to purchase, and we have agreed to sell to that underwriter, the number of shares of common stock set forth opposite the underwriter's name in the following table.

Underwriters	Number of Shares
Citigroup Global Markets Inc.	
Cowen and Company, LLC	
Piper Sandler & Co.	
Needham & Company, LLC	
Total	

The underwriting agreement provides that the obligations of the underwriters to purchase the shares included in this offering are subject to approval of legal matters by counsel and to other conditions. The underwriters are obligated to purchase all the shares (other than those covered by the underwriters' option to purchase additional shares described below) if they purchase any of the shares.

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount from the initial public offering price not to exceed $ per share. If all the shares are not sold at the initial offering price, the underwriters may change the offering price and the other selling terms. The representatives have advised us that the underwriters do not intend to make sales to discretionary accounts.

If the underwriters sell more shares than the total number set forth in the table above, we have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares at the public offering price less the underwriting discount. The underwriters may exercise the option solely for the purpose of covering over-allotments, if any, in connection with this offering. To the extent the option is exercised, each underwriter must purchase a number of additional shares approximately proportionate to that underwriter's initial purchase commitment. Any shares issued or sold under the option will be issued and sold on the same terms and conditions as the other shares that are the subject of this offering.

We, our officers, directors and holders of substantially all of our securities have agreed that, subject to specified limited exceptions, for a period of 180 days from the date of this prospectus, we and they will not, without the prior written consent of the representatives, dispose of or hedge any shares or any securities convertible into or exchangeable for shares of our common stock. The representatives, in their sole discretion, may release any of the securities subject to these lock-up agreements at any time, which, in the case of officers and directors, shall be with notice.

Prior to this offering, there has been no public market for our shares. Consequently, the initial public offering price for the shares will be determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price will be our results of operations, our current financial condition, our future prospects, our markets, the economic conditions in and future prospects for the industry in which we compete, our management and currently prevailing general conditions in the equity securities markets, including current market valuations of publicly traded companies considered comparable to our company. We cannot ensure however, that the price at which the shares will sell in the public market after this offering will not be lower than the initial public offering price or that an active trading market in our shares will develop and continue after this offering.

We have applied to have our shares listed on the Nasdaq Global Market under the symbol “PLRX”.

The following table shows the underwriting discounts and commissions that we are to pay to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters’ option to purchase additional shares.

	Paid by Pliant Therapeutics, Inc.	
	No Exercise	Full Exercise
Per share	$	$
Total	$	$

We estimate that our portion of the total expenses of this offering will be $. We have also agreed to reimburse the underwriters for certain FINRA-related and other expenses incurred by them in connection with this offering in an amount up to $.

In connection with the offering, the underwriters may purchase and sell shares in the open market. Purchases and sales in the open market may include short sales, purchases to cover short positions, which may include purchases pursuant to the option to purchase additional shares, and stabilizing purchases.

- Short sales involve secondary market sales by the underwriters of a greater number of shares than they are required to purchase in the offering.
  - “Covered” short sales are sales of shares in an amount up to the number of shares represented by the underwriters’ option to purchase additional shares.
  - “Naked” short sales are sales of shares in an amount in excess of the number of shares represented by the underwriters’ option to purchase additional shares.
- Covering transactions involve purchases of shares either pursuant to the underwriters’ option to purchase additional shares or in the open market in order to cover short positions.
  - To close a naked short position, the underwriters must purchase shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.
  - To close a covered short position, the underwriters must purchase shares in the open market or must exercise the option to purchase additional shares. In determining the source of shares to close the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares.
- Stabilizing transactions involve bids to purchase shares so long as the stabilizing bids do not exceed a specified maximum.

Purchases to cover short positions and stabilizing purchases, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of the shares. They may also cause the price of the shares to be higher than the price that would otherwise exist in the open market in the absence of these transactions. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise. If the underwriters commence any of these transactions, they may discontinue them at any time.

Relationships

The underwriters are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal

investment, hedging, financing and brokerage activities. The underwriters and their respective affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and short positions in such securities and instruments.

Affiliates of Cowen and Company, LLC purchased 10,895,619 shares of our Series B redeemable convertible preferred stock in our July 2018 Series B redeemable convertible preferred stock financing and 2,732,240 shares of our Series C redeemable convertible preferred stock in our December 2019 Series C redeemable convertible preferred stock financing. Those shares of redeemable convertible preferred stock will automatically convert into shares of common stock immediately prior to and in connection with the completion of this offering.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make because of any of those liabilities.

Notice to Prospective Investors in the European Economic Area and the United Kingdom

In relation to each member state of the European Economic Area and the United Kingdom, or each, a "Relevant State," no shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

(i) to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the underwriters for any such offer; or

(iii) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require the Company or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129. References to the Prospectus Regulation includes, in relation to the United Kingdom, the Prospectus Regulation as it forms part of United Kingdom domestic law by virtue of the European Union (Withdrawal) Act 2018.

Notice to Prospective Investors in the United Kingdom

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial

Services and Markets Act 2000 (Financial Promotion) Order 2005 as amended the "Financial Promotion Order", (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended, or FSMA) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the FSMA.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice to Prospective Investors in France

Neither this prospectus nor any other offering material relating to the shares described in this prospectus has been submitted to the clearance procedures of the *Autorité des Marchés Financiers* or of the competent authority of another member state of the European Economic Area and notified to the *Autorité des Marchés Financiers.* The shares have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus nor any other offering material relating to the shares has been or will be:

- released, issued, distributed or caused to be released, issued or distributed to the public in France; or
- used in connection with any offer for subscription or sale of the shares to the public in France.

Such offers, sales and distributions will be made in France only:

- to qualified investors (*investisseurs qualifiés*) or to a restricted circle of investors (*cercle restreint d'investisseurs*), in each case investing for their own account, all as defined in, and in accordance with articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1 and D.764-1 of the French *Code monétaire et financier*;
- to investment services providers authorized to engage in portfolio management on behalf of third parties; or
- in a transaction that, in accordance with article L.411-2-II-1° -or-2° -or 3° of the French *Code monétaire et financier* and article 211-2 of the General Regulations (*Règlement Général*) of the *Autorité des Marchés Financiers*, does not constitute a public offer (*appel public à l'épargne*).

The shares may be resold directly or indirectly, only in compliance with articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French *Code monétaire et financier*.

Notice to Prospective Investors in Hong Kong

No securities have been offered or sold, and no securities may be offered or sold, in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to professional investors, as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong ("SFO") and any rules made under that Ordinance; or in other circumstances which do not result in the document being a prospectus, as defined in the Companies Ordinance (Cap. 32) of Hong Kong ("CO") or which do not constitute an offer or invitation to the public for the purpose of the CO or the SFO. No document, invitation or advertisement relating to the securities has been issued or may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors, as defined in the SFO and any rules made under that Ordinance.

This prospectus has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus may not be issued, circulated or distributed in Hong Kong, and the securities may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the securities will be required, and is deemed by the acquisition of the securities, to confirm that he is aware of the restriction on offers of the securities described in this prospectus and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Notice to Prospective Investors in Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948 of Japan, as amended), or FIEL, and the initial purchaser will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been and will not be lodged or registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:
  - to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
  - where no consideration is or will be given for the transfer;
  - where the transfer is by operation of law;
  - as specified in Section 276(7) of the SFA; or
  - as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Solely for the purposes of its obligations pursuant to Section 309B of the SFA, we have determined, and hereby notify all relevant persons (as defined in the CMP Regulations 2018), that the shares are "prescribed capital markets products" (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Notice to Prospective Investors in Australia

This prospectus is not a disclosure document for the purposes of Australia's Corporations Act 2001 (Cth) of Australia, or Corporations Act, has not been lodged with the Australian Securities & Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this prospectus in Australia:

You confirm and warrant that you are either:

- a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;
- a "sophisticated investor" under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to the Company which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made;
- a person associated with the Company under Section 708(12) of the Corporations Act; or
- a "professional investor" within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor, associated person or professional investor under the Corporations Act any offer made to you under this prospectus is void and incapable of acceptance.

You warrant and agree that you will not offer any of the securities issued to you pursuant to this prospectus for resale in Australia within 12 months of those securities being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Israel

The shares offered by this prospectus have not been approved or disapproved by the Israel Securities Authority, or ISA, nor have such shares been registered for sale in Israel. The shares may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus that has been approved by the ISA. The ISA has not issued permits, approvals or licenses in connection with this offering or publishing this prospectus, nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the shares being offered.

This document does not constitute a prospectus under the Israeli Securities Law and has not been filed with or approved by the ISA. In the State of Israel, this document may be distributed only to, and may be directed only at, and any offer of the shares may be directed only at investors listed in the first addendum to the Israeli Securities Law, or the Addendum, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange Ltd., underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon for us by Goodwin Procter LLP, Redwood City, California. Attorneys at Goodwin Procter LLP have a beneficial interest in an aggregate of less than 1% of our common stock. Certain legal matters in connection with our patents and intellectual property interests will be passed upon for us by Morrison Foerster LLP, San Francisco, California. Legal matters in connection with the offering will be passed upon for the underwriters by Cooley LLP, San Francisco, California.

EXPERTS

The financial statements as of and for the years ended December 31, 2019 and 2018, included in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein. Such financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock being offered by this prospectus, which constitutes a part of the registration statement. This prospectus does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the common stock offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov. Upon completion of this offering, we will be subject to the information reporting requirements of the Exchange Act, and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available via the SEC's website at www.sec.gov. We also maintain a website at www.plianttrx.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. However, the information contained in or accessible through our website is not part of this prospectus or the registration statement of which this prospectus forms a part, and investors should not rely on such information in making a decision to purchase our common stock in this offering.

Pliant Therapeutics, Inc.
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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Report of Independent Registered Public Accounting Firm

To the stockholders and the Board of Directors of Pliant Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Pliant Therapeutics, Inc. (the "Company") as of December 31, 2019 and 2018 and the related statements of operations and comprehensive loss, redeemable convertible preferred stock and stockholders' deficit, and cash flows, for each of the two years for the period ended December 31, 2019, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte and Touche LLP

San Francisco, CA
March 13, 2020

We have served as the Company's auditor since 2018.

Pliant Therapeutics, Inc.
Balance Sheets

(In thousands, except share and per share amounts)	As of December 31, 2018	As of December 31, 2019	Pro Forma as of December 31, 2019 (unaudited)
Assets			
Current assets			
Cash and cash equivalents	$ 60,949	$ 85,807	$
Short-term investments	—	16,966	
Accounts receivable	—	7,052	
Tax credit receivable	500	333	
Prepaid expenses and other current assets	284	1,742	
Total current assets	61,733	111,900	
Property and equipment, net	4,260	4,079	
Other non-current assets	536	3,085	
Total assets	$ 66,529	$ 119,064	
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Deficit			
Current liabilities			
Accounts payable	$ 2,576	$ 1,250	
Accrued liabilities (Note 5)	2,508	6,922	
Total current liabilities	5,084	8,172	
Other long term liabilities (Note 5)	811	912	
Total liabilities	5,895	9,084	
Commitments and Contingencies (Note 13)			
Series A redeemable convertible preferred stock, $0.0001 par value; 56,000,000 and 56,000,000 shares authorized at December 31, 2018 and 2019, respectively; 56,000,000 and 56,000,000 shares issued and outstanding, at December 31, 2018 and 2019, respectively; aggregate liquidation preference of $61,516 and $62,468 at December 31, 2018 and 2019, respectively; shares issued and outstanding pro forma (unaudited)	61,516	62,468	
Series B redeemable convertible preferred stock, $0.0001 par value; 58,109,973 shares and 49,501,221 shares authorized at December 31, 2018 and 2019, respectively; 49,501,221 shares and 49,501,221 shares issued and outstanding at December 31, 2018 and 2019, respectively; aggregate liquidation preference of $70,587 and $75,860 at December 31, 2018 and 2019, respectively; shares issued and outstanding pro forma (unaudited)	70,587	75,860	
Series C redeemable convertible preferred stock, $0.0001 par value; 0 shares and 44,000,000 shares authorized at December 31, 2018 and 2019, respectively; 0 shares and 26,360,745 shares issued and outstanding at December 31, 2018 and 2019, respectively; aggregate liquidation preference of $0 and $47,947 at December 31, 2018 and 2019, respectively; shares issued and outstanding pro forma (unaudited)	—	47,947	
Stockholders' deficit			
Common stock, $0.0001 par value; 147,682,655 and 181,000,000 shares authorized at December 31, 2018 and 2019; and 9,745,453 and 13,199,073 shares issued and outstanding at December 31, 2018 and 2019, respectively; shares issued and outstanding, pro forma (unaudited)	1	1	
Additional paid-in capital	—	—	
Accumulated deficit	(71,470)	(76,295)	
Accumulated other comprehensive loss	—	(1)	
Total stockholders' deficit	(71,469)	(76,295)	
Total liabilities, redeemable convertible preferred stock and stockholders' deficit	$ 66,529	$ 119,064	

The accompanying notes are an integral part of these financial statements

Pliant Therapeutics, Inc.
Condensed Statements of Operations and Comprehensive Loss

(In thousands, except share and per share amounts)	Years Ended December 31, 2018	2019
Revenue — related party	$ —	$ 57,052
Operating expenses:		
Research and development	(24,415)	(47,353)
General and administrative	(6,500)	(10,930)
Total operating expenses	(30,915)	(58,283)
Loss from operations	(30,915)	(1,231)
Interest income	688	816
Other expense, net	(49)	(216)
Net loss	$ (30,276)	$ (631)
Accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	(4,876)	(6,225)
Net loss attributable to common stockholders	$ (35,152)	$ (6,856)
Net loss per share, attributable to common stockholders, basic and diluted	$ (4.22)	$ (0.59)
Shares used in computing net loss per share attributable to common stockholders, basic and diluted	8,333,000	11,608,180
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)		$
Shares used in computing pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)		
Comprehensive Loss:		
Net loss	$ (30,276)	$ (631)
Net unrealized loss on short-term investments	$ —	$ (1)
Total other comprehensive loss	—	(1)
Comprehensive loss	$ (30,276)	$ (632)

The accompanying notes are an integral part of these financial statements.

Pliant Therapeutics, Inc.
Condensed Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit

(In thousands, except share amounts)	Redeemable Convertible Preferred Stock						Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
	Series A		Series B		Series C							
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2017	36,500,000	$39,910	—	$ —	—	$ —	7,171,605	$ —	$ —	$ —	$ (36,566)	$ (36,565)
Issuance of Series A redeemable preferred stock, net of issuance costs of $16	19,500,000	19,484	—	—	—	—	—	—	—	—	—	—
Issuance of Series B redeemable preferred stock, net of issuance costs of $315	—	—	49,501,221	67,833	—	—	—	—	—	—	—	—
Vesting of founders' common stock and restricted stock awards	—	—	—	—	—	—	2,573,848	—	20	—	—	20
Accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	—	2,122	—	2,754	—	—	—	—	(248)	—	(4,628)	(4,876)
Stock-based compensation expense	—		—	—	—	—	—	—	228	—	—	228
Net loss	—	—	—	—	—	—	—	—	—	—	(30,276)	(30,276)
Balance at December 31, 2018	56,000,000	61,516	49,501,221	70,587	—	—	9,745,453	1	—	—	(71,470)	(71,469)

(In thousands, except share amounts)	Redeemable Convertible Preferred Stock						Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholde Deficit
	Series A		Series B		Series C							
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Issuance of Series C redeemable preferred stock, net of issuance costs of $293	—	—	—	—	26,360,745	47,947	—	—	—	—	—	–
Vesting of founders' common stock and restricted stock awards	—	—	—	—	—	—	3,152,894	—	28	—	—	
Option exercises	—	—	—	—	—	—	300,726	—	174	—	—	1
Accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	—	952	—	5,273	—	—	—	—	(2,031)	—	(4,194)	(6,2
Stock-based compensation expense	—	—	—	—	—	—	—	—	1,829	—	—	1,8
Net unrealized loss on short-term investments	—	—	—	—	—	—	—	—	—	(1)	—	
Net loss	—	—	—	—	—	—	—	—	—	—	(631)	(6
Balance at December 31, 2019	56,000,000	$62,468	49,501,221	$75,860	26,360,745	$47,947	13,199,073	$ 1	$ —	$ (1)	$ (76,295)	$ (76,2

The accompanying notes are an integral part of these financial statements.

Pliant Therapeutics, Inc.
Statements of Cash Flows

(In thousands)	Years Ended December 31, 2018	2019
Cash flows from operating activities		
Net loss	$ (30,276)	$ (631)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	666	1,113
Stock-based compensation expense	228	1,829
Changes in operating assets and liabilities:		
Tax credit receivable	(250)	167
Accounts receivable	—	(7,052)
Prepaid expenses and other current assets	(78)	(1,458)
Other non-current assets	(505)	232
Accounts payable	760	(1,255)
Accrued liabilities	776	4,255
Deferred rent and other long-term liabilities	351	50
Net cash used in operating activities	(28,328)	(2,750)
Cash flows from investing activities		
Purchase of short-term investments	—	(51,713)
Accretion of short-term investments	—	(254)
Maturity of short-term investments	—	35,000
Purchase of property and equipment	(2,323)	(964)
Net cash used in investing activities	(2,323)	(17,931)
Cash flows from financing activities		
Proceeds from issuance of Series A preferred stock, net of issuance costs	19,484	—
Proceeds from issuance of Series B preferred stock, net of issuance costs	67,833	—
Proceeds from issuance of Series C preferred stock, net of issuance costs	—	47,947
Proceeds from issuance of restricted common stock	32	—
Proceeds from exercise of stock options	—	174
Payment of deferred offering costs	—	(2,582)
Net cash provided by financing activities	87,349	45,539
Net increase in cash and cash equivalents	56,698	24,858
Cash and cash equivalents at beginning of period	4,251	60,949
Cash and cash equivalents at end of period	$ 60,949	$ 85,807
Supplemental disclosures of noncash investing and financing activities:		
Purchase of property and equipment in accounts payable and accrued liabilities	$ 191	$ 159
Reclassification of restricted stock awards from liabilities to common stock upon vesting	$ 20	$ 30
Accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	$ 4,876	$ 6,225
Tenant improvement paid for by the landlord	$ 566	$ —
Deferred offering costs in accounts payable and accrued liabilities	$ 31	$ 230
Net unrealized loss on short-term investments	$ —	$ (1)

The accompanying notes are an integral part of these financial statements.

Pliant Therapeutics, Inc.
Notes to Financial Statements

1. Description of Business

Pliant Therapeutics, Inc. (the "Company") is a clinical stage biopharmaceutical company focused on discovering and developing novel therapies for the treatment of fibrosis with an initial focus on treating fibrosis by inhibiting integrin-mediated activation of TGF-ß. Fibrosis refers to the abnormal thickening and scarring of connective tissue due to the production and deposition of excess collagen in the extra-cellular matrix. Fibrosis can occur in many different tissues including lung, liver, kidney, muscle, skin and the GI tract, and often causes severe and debilitating disease leading to organ failure. The Company is located in South San Francisco, California, and was incorporated in the state of Delaware in June 2015.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP").

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and expenses as well as the disclosure of contingent assets and liabilities as of and during the reporting period. The Company bases its estimates and assumptions on historical experience when available and on various factors that it believes to be reasonable under the circumstances. Significant estimates and assumptions reflected in these financial statements include, but are not limited to, useful lives assigned to property and equipment, the fair values of common and redeemable convertible preferred stock, stock-based compensation expense, accruals for research and development costs, income taxes and uncertain tax positions. The Company assesses estimates on an ongoing basis; however, actual results could materially differ from those estimates.

Revenue Recognition

Effective January 1, 2018 the Company adopted the provision of Accounting Standards Update or ASU, ASU 2014-09, Topic 606 *Revenue from Contracts with Customers ("Topic 606")* using the full retrospective transition method. ASU 2014-09 provides a single, comprehensive revenue recognition model for all contracts with customers. This standard contains principles for the determination of the measurement of revenue and the timing of when such revenue is recognized. Revenue recognition will reflect the transfer of goods or services to customers at an amount that is expected to be earned in exchange for those goods or services. Subsequently, the FASB has issued the following guidance to amend ASU 2014-09: ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date; ASU No. 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net); ASU No. 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing; ASU No. 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients; and ASU No. 2016-20, Technical Corrections and Improvements to Topic 606, which clarifies narrow aspects of Topic 606 or corrects unintended application of the guidance. The Company must adopt ASU No. 2015-14, ASU No. 2016-08, ASU No. 2016-10, ASU No. 2016-12, and ASU No. 2016-20 with ASU No. 2014-09, which are referred to collectively as the "Topic 606".

The FASB issued ASU No. 2018-18, "Collaborative Arrangements (Topic 808)" issued in November 2018. The Company assessed and concluded that they are not under ASC 808.

Pliant Therapeutics, Inc.
Notes to Financial Statements

To date all revenue has been generated from the Company's Collaboration and License Agreement with Novartis ("the Novartis Agreement"). As a result, there was no impact of the adoption of Topic 606 to the Company's 2018 financial statements. See Note 6 for details of Topic 606 application to the Novartis Agreement.

Contract revenue consists of the strategic collaboration and license agreement. The Company's licensing agreement includes upfront signing fees, cost reimbursements, research and development services, milestone payments and royalties on future licensee's product sales. The Company has both fixed and variable consideration. Non-refundable upfront fees are considered fixed, while funding of research and development activities and milestone payments are identified as variable consideration. A contract liability is an obligation to transfer goods or services for which the Company has received consideration, or for which an amount of consideration is due from the customer. A contract asset is a right to consideration in exchange for goods or services that the Company has transferred to a customer when that right is conditional on something other than the passage of time. A receivable will be recorded on the balance sheet when the Company has unconditional rights to consideration (i.e., only the passage of time is required before payment becomes due). Receivables cannot be netted against contract liabilities and are presented separately from contract assets. Contract assets and contract liabilities are netted at the contract level and are then aggregated and presented separately each reporting period.

In determining the appropriate amount of revenue to be recognized as the Company fulfills its obligations under its agreements, the Company performs the following steps: (i) identification of the contract with a customer; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price; (iv) allocation of the transaction price to the performance obligations in the contract; and (v) recognition of revenue when (or as) we satisfy each performance obligation.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. The Company's performance obligations include providing the worldwide license rights to compound PLN-1474, provide research and development services for PLN-1474 through Phase 1 of its development and provide research and development services on initial candidate targets, which services are combined with a non-exclusive license to the initial candidate targets. The Company concluded that the worldwide license was distinct because the customer can benefit from the license on its own or together with other resources that are readily available, and the research and development services are not transformative in nature. The Company concluded the research and development services on initial candidate targets were not distinct from a non-exclusive license for the initial candidate targets, primarily as a result of (i) Pliant being unable to benefit on its own or together with other resources that are readily available as the license and (ii) the research and development services, including manufacturing in support of such services, were expected to significantly modify the initial license. Therefore, the promised goods and services were considered a single performance obligation. Significant management judgment is required in the identification of performance obligations and to determine the level of effort required under an arrangement and the period over which the Company expects to complete our performance obligations under the arrangement. If the Company cannot reasonably estimate when the performance obligations either are completed or become inconsequential, then revenue recognition is deferred until the Company can reasonably make such estimates. The Company estimates the transaction price and records revenue in the amount for which it is probable that a significant reversal of cumulative revenue recognized will not occur. At the end of each subsequent reporting period, we re-evaluate the estimated variable consideration included in the transaction price and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Revenue is then recognized over the remaining estimated period of performance using the cumulative catch-up method. The estimated period of performance and project costs are reviewed quarterly and adjusted, as needed, to reflect the Company's current assumptions regarding the timing of our deliverables.

As part of the accounting for these arrangements, the Company must develop assumptions that require judgment to determine the stand-alone selling price of each performance obligation identified in the contract. The

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Company has never sold the performance obligations separately; therefore observable stand-alone selling price does not exist. Accordingly, the Company estimates a stand-alone selling price through maximizing the use of observable inputs such as market data, project cost estimates, and targeted margins. The Company determined that each of the performance obligations is priced and delivered at the stand-alone selling price. Therefore, no reallocations are needed since there is no material right and the license and services are provided at the stand-alone selling price.

During the year ended December 31, 2019, the entirety of the Company's revenue—related party is related to the Collaboration and License Agreement with Novartis. The Company did not have any prior collaboration agreements and did not recognize revenue during the year ended December 31, 2018. Receivables from collaborations are typically unsecured and are concentrated in the biopharmaceutical industry. Accordingly, the Company may be exposed to credit risk generally associated with biopharmaceutical companies or specific to the Novartis Agreement. An allowance on the receivables will be recorded if circumstances indicate collection is doubtful for a particular receivables balance. To date, the Company has not experienced any losses related to these receivables.

Fair Value Measurements

The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities which are required to be recorded at fair value, the Company considers the principal or most advantageous market in which to transact and the market-based risk. Fair value accounting is applied for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis and at least annually. The carrying amount of the Company's financial instruments, including cash and cash equivalents, short-term investments, tax credit receivable, accounts receivable, prepaid expenses and other current assets, accounts payable and accrued liabilities approximate fair value due to their short-term maturities.

Concentration of Credit Risk and Other Risks and Uncertainties

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents, short-term investments and accounts receivable. The Company invests in money market funds, treasury bill and notes and government notes. The Company limits its credit risk associated with its cash and cash equivalents by placing them with banks and institutions it believes are highly credit worthy and in highly rated investments. The Company performs credit evaluations of its customer, and the risk with respect to accounts receivable is further mitigated by the short duration of customer payment terms and the pedigree of the customer base. During the year ended December 31, 2019, Novartis accounted for 100% of the Company's revenue—related party and accounts receivable.

The Company's future results of operations involve several other risks and uncertainties. Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to, uncertainty of results of clinical trials and reaching milestones, uncertainty of regulatory approval of the Company's product candidates, uncertainty of market acceptance of the Company's product candidates, competition from substitute products, including those that may be developed or marketed by larger companies, securing and protecting intellectual property, strategic relationships and dependence on key individuals and sole source suppliers.

The Company's product candidates require approvals from the U.S Food and Drug Administration ("FDA") and comparable foreign regulatory agencies prior to commercial sales in their respective jurisdictions. There can

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be no assurance that any product candidates will receive the necessary approvals. If the Company was denied approval, approval was delayed or the Company was unable to maintain approval for any product candidate, it could have a materially adverse impact on the Company.

Segments

The Company operates and manages its business as one reportable and operating segment, which is the business of developing and commercializing novel therapies for fibrotic diseases. The Company's chief executive officer, who is the chief operating decision maker, reviews financial information on an aggregate basis for allocating and evaluating financial performance. All long-lived assets are maintained in the United States of America.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of three months or less from the purchase date to be cash equivalents. Cash equivalents consist primarily of amounts invested in Money Market Funds and U.S. government agency securities and are stated at fair value.

Short-Term Investments

The Company's short-term investments consist of United States ("U.S.") Treasury securities and U.S. government agency securities with remaining maturities beyond three months at the date of purchase and one year or less from the balance sheet date. As of December 31, 2019, all of the Company's short-term investments were classified as available-for-sale and were carried at fair market value. The unrealized losses on the Company's available-for-sale securities are recorded in "other comprehensive income and losses" ("OCI") in the Statements of Operations and Comprehensive Loss. See Note 3 for further details.

Short-term investments are considered impaired when a decline in fair value is judged to be other-than-temporary. The Company consults with its investment managers and considers available quantitative and qualitative evidence in evaluating potential impairment of its short-term investments on a quarterly basis. If the cost of an individual investment exceeds its fair value, the Company evaluates, among other factors, general market conditions, the duration and extent to which the fair value is less than cost and its intent and ability to hold the investment. Once a decline in fair value is determined to be other-than-temporary, an impairment charge will be recorded to other expense, net, in the statement of operations and comprehensive loss and a new cost basis in the short-term investment will be established.

Property and Equipment, Net

Property and equipment are recorded at cost net of accumulated depreciation and amortization. Property and equipment are depreciated using the straight-line method over the estimated useful lives of the assets. The useful lives of property and equipment are as follows:

Laboratory equipment	5 years
Computer equipment and software	3 years
Leasehold improvements	Shorter of remaining lease term or estimated useful life

Upon retirement or sale of the assets, the cost and related accumulated depreciation and amortization are removed from the balance sheets and the resulting gain or loss is recorded to the Statements of Operations and Comprehensive Loss. Repairs and maintenance are expensed as incurred.

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Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future net cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset exceeds the fair value of the asset. There was no impairment of long-lived assets during the years ended December 31, 2018 and 2019.

Redeemable Convertible Preferred Stock

The Company classifies redeemable convertible preferred stock outside of stockholders' deficit because, upon the occurrence of certain change in control events that are outside the Company's control, including liquidation, sale or transfer of the Company's assets, holders of the redeemable convertible preferred stock can cause redemption for cash. At any time on or after December 19, 2024, the holders of a majority of the outstanding redeemable convertible preferred stock can also require the Company to redeem the redeemable convertible preferred stock by providing the Company a written notice requesting such redemption. The Company recognizes changes in the redemption value immediately as they occur, for example changes in fair value of preferred stock, and adjusts the carrying amount of the redeemable convertible preferred stock to equal the redemption value at the end of each reporting period. In the absence of retained earnings these accretion charges are recorded against additional paid in capital, if any, and then to accumulated deficit. The Company analyzed all embedded derivatives and beneficial conversion features for its redeemable convertible preferred stock and concluded that none requires bifurcation.

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development expenses consist primarily of personnel costs for the Company's research and product development employees. Also included are non-personnel costs such as fees paid to consultants and third parties for preclinical and clinical studies, research and development services, laboratory supplies and equipment maintenance costs, license costs, contract manufacturing costs and allocations of facility related costs.

The Company estimates preclinical and clinical studies and research expenses based on the services performed, pursuant to contracts with research institutions that conduct and manage preclinical and clinical studies and research services on its behalf. The Company estimates these expenses based on discussions with internal management personnel and external service providers as to the progress or stage of completion of services and the contracted fees to be paid for such services. If the actual timing of the performance of services or the level of effort varies from the original estimates, the Company will adjust the accrual accordingly. Payments made to third parties under these arrangements in advance of the performance of the related services are recorded as prepaid expenses and are expensed over the time when services are rendered.

Payments associated with licensing agreements to acquire exclusive licenses to develop, use, manufacture and commercialize products that have not reached technological feasibility and do not have alternate commercial use are expensed as incurred.

Tax Credit Receivable

The Company is eligible for federal and California research and development credits for its research and development activities performed within the United States and California, respectively. The credits are generally

available to offset federal and California income tax liabilities. The Company has applied $0.2 million of federal research and development credits to offset its federal payroll tax expenses for the year ended December 31, 2018 due to its small business status. Starting in the fourth quarter of 2019, the Company was no longer eligible for federal and California research development credits as it generated revenue during the year. As such, all federal and California research and development credits generated and accrued during the first three quarters of 2019 were reversed.

Stock-Based Compensation

The Company's stock-based equity awards include restricted stock awards and stock options that are granted to employees and consultants and accounted at fair value on the award grant date. Stock-based compensation expense is recognized over the awards' vesting period on a straight-line basis and recorded as either research and development or general and administrative expenses in the Statements of Operations and Comprehensive Loss based on the function to which the related services are provided. Forfeitures are accounted for as they occur.

The Black-Scholes option-pricing model, used to estimate fair value of stock-based awards, requires the use of the following assumptions:

- *Expected term*—The expected term represents the period that the stock-based awards are expected to be outstanding. The expected term for the Company's stock options was calculated based on the weighted-average vesting term of the awards and the contract period, or simplified method.
- *Expected volatility*—Since the Company is not yet a public company and does not have any trading history for its common stock, the expected volatility was estimated based on the average historical volatilities of common stock of comparable publicly traded entities over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their size, stage in the life cycle or area of specialty. The Company will continue to apply this process until enough historical information regarding the volatility of its stock price becomes available.
- *Risk-free interest rate*—The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant for zero-coupon U.S. Treasury notes with maturities approximately equal to the expected term of the awards.
- *Expected dividend*—The Company has never paid dividends on the common stock and have no plans to pay dividends on the common stock. Therefore, the Company used an expected dividend yield of zero.

The fair value of the common stock has been determined using independent third-party valuations based on relevant valuation methodologies as outlined in the American Institute of Certified Public Accountants (AICPA) Practice Aid, "*Valuation of Privately-Held-Company Equity Securities Issued as Compensation*". The Company also considered the amount of time between the independent third-party valuation dates and the grant dates and used interpolation of the fair value between the two valuation dates to estimate common stock fair value at each grant date. This determination included an evaluation of whether the subsequent valuation indicated that any significant change in valuation had occurred between the previous valuation and the grant date.

Deferred Offering Costs

Deferred offering costs, consisting of direct legal, accounting, filing and other fees directly related to the Company's proposed initial public offering ("IPO") are capitalized. The deferred offering costs will be reclassified to additional paid in capital upon completion of the IPO. The Company deferred $0.2 million and $2.7 million as of December 31, 2018 and December 31, 2019, respectively, which is recorded as other Non-current assets in the Balance Sheets. In the event the IPO is aborted, all capitalized deferred offering costs will be expensed.

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Leases and Rent Expense

The Company records rent expense on a straight-line basis over the life of the lease. In cases where there is a free rent period or future fixed rent escalations, the Company records a deferred rent liability. Additionally, the receipt of any lease incentives is recorded as a deferred rent liability which is amortized over the lease term as a reduction of rent expense. Building improvements made with the lease incentives or tenant allowances are capitalized as leasehold improvements and included in property and equipment, net in the Balance Sheets.

Income Taxes

The Company provides for income taxes under the asset and liability method. Current income tax expense or benefit represents the amount of income taxes expected to be payable or refundable for the current year. Deferred income tax assets and liabilities are determined based on differences between the financial statement reporting and tax basis of assets and liabilities and net operating loss and credit carryforwards and are measured using the enacted tax rates and laws that will be in effect when such items are expected to reverse. Deferred income tax assets are reduced, as necessary, by a valuation allowance when management determines it is more likely than not that some or all the tax benefits will not be realized.

The Company accounts for uncertain tax positions in accordance with ASC No. 740-10, *Accounting for Uncertainty in Income Taxes*. The Company assesses all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the position's sustainability and is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and the Company will determine whether (i) the factors underlying the sustainability assertion have changed and (ii) the amount of the recognized tax benefit is still appropriate. The recognition and measurement of tax benefits requires significant judgment. Judgments concerning the recognition and measurement of a tax benefit might change as new information becomes available.

The Company includes any penalties and interest expense related to income taxes as a component of income tax expense, as necessary.

Comprehensive Loss

Comprehensive loss includes net loss as well as other changes in stockholders' deficit that result from transactions and economic events other than those with stockholders. For the years ended December 31, 2018 and 2019, the Company had no net unrealized losses on short-term investments and an $1,000 net unrealized loss on short-term investments, respectively.

Net Loss Per Share

Basic net loss per share is computed by dividing net loss attributed to common stockholders by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share is computed using the weighted-average number of shares of common stock outstanding during the period and, if dilutive, the weighted-average number of potential shares of common stock. Net loss per share attributable to common stockholders is calculated using the two-class method, which is based on an earnings allocation formula that determines net loss per share for the Company's common stockholders and holders of participating securities. The Company's redeemable convertible preferred stock contains participation rights in any dividend paid by the Company and is deemed to be a participating security. Net loss attributable to common stockholders

and participating preferred shares are allocated to each share on an as-converted basis as if all the earnings for the period had been distributed. The participating securities do not include a contractual obligation to share in losses of the Company and are not included in the calculation of net loss per share in the periods in which a net loss is recorded.

Diluted net loss per share is computed using the more dilutive of (a) the two-class method or (b) the as-converted method. The Company allocates earnings first to redeemable convertible preferred shares stockholders based on dividend rights and then to common and preferred stockholders based on ownership interests. The weighted-average number of shares of common stock included in the computation of diluted net loss gives effect to all potentially dilutive common equivalent shares, including outstanding stock options and preferred stock.

Common stock equivalent shares are excluded from the computation of diluted net loss per share if their effect is antidilutive. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is generally the same as basic net loss per share attributable to common stockholders since dilutive common shares are not assumed to have been issued if their effect is antidilutive. The Company reported a net loss attributable to common stockholders for the years ended December 31, 2018 and 2019.

Unaudited Pro Forma Information

Immediately prior to the completion of the Company's IPO resulting in net proceeds of at least $45.0 million to the Company all outstanding shares of redeemable convertible preferred stock will automatically convert into common stock. Unaudited pro forma balance sheet information as of December 31, 2019, assumes the conversion of all outstanding redeemable convertible preferred stock into shares of common stock. The shares of common stock issuable and the proceeds expected to be received in the IPO are excluded from such pro forma financial information.

The unaudited pro forma net loss per share for the year ended December 31, 2019, was computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of redeemable convertible preferred stock, as if such conversion had occurred at the beginning of the period, or their issuance dates, if later. The unaudited pro forma net loss per share does not include the shares expected to be sold and related proceeds to be received from the IPO. Net loss attributable to common stockholders used in the unaudited pro forma net loss per share calculation was adjusted for the accretion of redeemable convertible preferred stock, as preferred stock is not considered outstanding prior to the closing of the IPO.

Recently Issued Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") No. 2016-02, *Leases ("Topic 842")*, which requires an entity to recognize assets and liabilities arising from a lease for both financing and operating leases. For public entities, ASU No. 2016-02 is effective for fiscal years beginning after December 15, 2018. The ASU will also require new qualitative and quantitative disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. As a result of the Company having elected the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b) of the JOBS Act, ASU No. 2016-02 is effective for the Company in the fiscal years beginning after December 15, 2020, with early adoption permitted. The Company is currently in the process of evaluating the impact of the adoption of ASU No. 2016-02 on the Company's financial statements.

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In November 2018, the FASB issued Accounting Standards Update 2018-18 ("ASU 2018-18"), Collaborative Arrangements (topic 808): Clarifying the Interaction between Topic 808 and Topic 606. ASU 2018-18 clarifies that certain transactions between participants in a collaborative arrangement should be accounted for under ASC 606 when the counterparty is a customer. The guidance precludes an entity from presenting consideration from a transaction in a collaborative arrangement as revenue from contracts with customers if the counterparty is not a customer for that transaction. The guidance amends ASC 808 to refer to the unit-of-account guidance in ASC 606 and requires it to be used only when assessing whether a transaction is in the scope of ASC 606. The guidance will be effective for the Company for fiscal years beginning after December 15, 2020 and interim periods within fiscal years beginning after December 15, 2021 and has to be adopted using retrospective approach. The Company is currently evaluating the impact of ASU 2018-18 on its financial statements.

3. Financial Instruments

The Company's short-term investments in U.S. Treasury and U.S. government agency securities have been classified and accounted for as available-for-sale. The Company classifies its U.S. Treasury and U.S. government agency securities as short-term based on each instrument's underlying contractual maturity date. Unrealized gains and losses on U.S. Treasury and U.S. government agency securities classified as available-for-sale are recognized in other comprehensive loss.

Assets and liabilities recorded at fair value on a recurring basis in the Balance Sheets and assets and liabilities measured at fair value on a non-recurring basis or disclosed at fair value, are categorized based upon the level of judgment associated with inputs used to measure their fair values. The accounting guidance for fair value provides a framework for measuring fair value and requires certain disclosures about how fair value is determined. Fair value is defined as the price that would be received upon the sale of an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date. The accounting guidance also establishes a three-level valuation hierarchy that prioritizes the inputs to valuation techniques used to measure fair value based upon whether such inputs are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

- *Level 1*—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;
- *Level 2*—Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and
- *Level 3*—Unobservable inputs that are significant to the measurement of the fair value of the assets or liabilities that are supported by little or no market data.

The Company's cash equivalent Money Market Funds are classified as Level 1 because they are valued using quoted market prices. The fair value of the Company's short-term investments are classified as Level 2 because they are valued using observable inputs to quoted market prices, benchmark yields, reported trades, broker/dealer quotes or alternative pricing sources with reasonable levels of price transparency and include U.S. government agency securities and U.S. Treasury securities. These Level 2 instruments require more management judgment and subjectivity compared to Level 1 instruments which include determining which instruments are most similar to the instrument being priced, determining whether the market is active and determining which

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model-derived valuations are to be used when calculating fair value. The Company performs its analysis with the assistance of investment advisors.

The following tables show the Company's cash and cash equivalents, Money Market Funds and short-term investments by significant investment category as of December 31, 2018 and December 31, 2019 (in thousands):

	As of December 31, 2018			
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Market Value
Level 1:				
Money Market Funds	$59,911	$ —	$ —	$59,911
Total financial assets	$59,911	$ —	$ —	$59,911

	As of December 31, 2019			
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Market Value
Level 1:				
Money Market Funds	$16,366	$ —	$ —	$16,366
Level 2:				
U.S. Treasury securities included in short-term investments	2,998	—	—	2,998
U.S. government agency securities included in cash and cash equivalents and short-term investments	34,204	1	(2)	34,203
Total financial assets	$53,568	$ 1	$ (2)	$53,567

The Company may sell certain of its short-term securities prior to their stated maturities for reasons including, but not limited to, managing liquidity, credit risk, duration and asset allocation.

There were no liabilities measured at fair value on a recurring basis as of December 31, 2018 and December 31, 2019. There have been no transfers between fair value measurement levels during the year ended December 31, 2018 and 2019.

The Company records interest income and accretion income earned on Money Market Funds and U.S. Treasury and U.S. government agency securities to interest income in its Statement of Operations and Comprehensive Loss.

4. Property and Equipment, net

Property and equipment, net consisted of the following (in thousands):

	As of December 31,	
	2018	2019
Computer equipment and software	$ 6	$ 22
Laboratory equipment	4,708	5,580
Leasehold improvements	621	657
Construction-in-progress	—	8
Total property and equipment, gross	5,335	6,267
Less: Accumulated depreciation	(1,075)	(2,188)
Total property and equipment, net	$ 4,260	$ 4,079

Depreciation expense for the years ended December 31, 2018 and 2019 was $0.7 million and $1.1 million, respectively.

5. Accrued Liabilities and Other Long Term Liabilities

Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	As of December 31,	
	2018	2019
Accrued compensation and benefits	$1,470	$2,971
Accrued research and development expenses	633	2,624
Other	275	1,263
Deferred rent	130	64
Total accrued liabilities	$2,508	$6,922

Accrued compensation and benefits consist primarily of accrued bonuses and accrued vacation.

Other Long Term Liabilities

Other long term liabilities consisted of the following (in thousands):

	As of December 31,	
	2018	2019
Deferred rent	$ 261	$ 458
Leasehold incentive obligation	525	444
Other liabilities — deposits	25	10
Total other long term liabilities	$ 811	$ 912

6. Novartis Agreement

In October 2019, the Company entered into a Collaboration and License Agreement with Novartis (the “Novartis Agreement”), for the development and commercialization of our preclinical product candidate, PLN-1474 and up to three additional integrin research targets. PLN-1474 is an internally discovered small molecule selective inhibitor of integrin aVß1, currently being developed for the treatment of liver fibrosis associated with nonalcoholic steatohepatitis (“NASH”). In accordance with the Novartis Agreement, on December 7, 2019, Novartis paid to Pliant an upfront non-refundable license fee of $50.0 million for the worldwide exclusive license to PLN-1474.

Novartis will fund the Company’s research and development services for PLN-1474 through Phase 1 after which Novartis will assume responsibility for all future development, manufacturing and commercialization costs of PLN-1474. Novartis will also fund the research and development services associated with integrin research targets as outlined in the Novartis Agreement. The Company is scheduled to receive up to $19.6 million in funding for PLN-1474 development services through Phase 1 of its development, which is expected to go through 2020. The Company is initially obligated to perform research and development services for the integrin research targets for sixty days, and Novartis has the option to terminate the services with 60 days notice. Novartis has the option to continue the research and development services through 2022. If any of the targets achieves

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target validation and are deemed a research target, Novartis holds the rights to exercise its license options to obtain an exclusive license for those deemed research targets on a research target-by-research target basis by paying an option exercise fee for each target (up to three in total), including all license compounds that are the subject of the applicable research program. Upon exercise of an option, Novartis will be responsible for global clinical development and commercialization of each licensed research target.

Under the Novartis Agreement, the Company is eligible for developmental, regulatory and commercial milestone payments related to PLN-1474 and the integrin research targets of up to $416.0 million if defined development and commercialization milestones are achieved and tiered royalties ranging from the mid-single digits to low double digits on product sales upon commercialization.

Upon execution of the Novartis Agreement, Pliant also entered into a Financing Side Letter with Novartis (the "Financing Side Letter"), whereby Novartis committed to provide up to $30.0 million in equity financing of which $20.0 million was provided for 10,928,962 shares of Series C Redeemable Convertible Preferred Stock on December 19, 2019 and the remaining $10.0 million will be provided for common shares in the event Pliant completes an Initial Public Offering. The Company determined that Novartis Agreement and the Financing Side Letter are separate agreements, they were not entered into for single commercial objective, the consideration in each agreement are tied to separate and different types of performance obligations and they are not considered a single performance obligation. The Series C Redeemable Preferred Stock was issued to Novartis at fair value of $1.83 per share in conjunction with its issuance to other investors at the same price. In addition, the contingent issuance of shares upon an Initial Public Offering would also be at fair value. Further, Novartis became a related party to the Company following its purchase of 10.9 million shares of our Series C Redeemable Convertible Stock on December 19, 2019, representing holdings of 7.4% of our outstanding shares on a fully diluted basis as of December 31, 2019. See Notes 9 and 14 to these financial statements for additional information.

The Company evaluated the Novartis Agreement under the revenue standard Topic 606 and concluded that Novartis is a customer. The Company identified the following performance obligations at the inception of the contract.

- Provide Novartis worldwide license rights to PLN-1474.
- Provide research and development services for PLN-1474 through Phase 1 of its development.
- Provide non-exclusive license rights to integrin research targets and research and development services on integrin research targets, together as a single performance obligation.

The Company determined the transaction price at inception of the Novartis Agreement is the $69.6 million consisting of the license fee of $50.0 million and research and development funding of $19.6 million payment to be allocated to the various performance obligations. The Novartis Agreement includes variable consideration for the funding of research and development services and potential future milestones and royalties that were contingent on future success factors for development programs. The Company used the "most likely" method to determine the variable consideration. None of the regulatory or development milestones were included in the transaction price. The Company will re-evaluate the transaction price in each reporting period as uncertain events are resolved or other changes in circumstances occur.

The Company considered the license to PLN-1474 as functional intellectual property, as when control of the license was transferred to Novartis at the inception of the Novartis Agreement, Novartis had the right to access its technology and it was functional. The Company determined the $50.0 million was standalone selling price PLN-1474 license and was recognized as revenue when control of the license transferred to Novartis, which was at or near inception of the Novartis Agreement.

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The Company estimated the standalone selling price of each research program based on internal and external costs to perform the research plus a reasonable profit margin. The total estimated cost of the research and development services reflects the nature of the services to be performed and the Company's best estimate of the length of time required to perform the services. The Company selected an input method of costs incurred to measure progress toward complete satisfaction of its performance obligation to provide research and development services as such method faithfully depicts the Company's performance in transferring control of the research and development service to Novartis. Changes in estimates of total internal and external costs expected to be incurred are recognized in the period of change as a cumulative catch-up adjustment. There have been no changes to the Company's estimates to date.

During the year ended December 31, 2019, Company recognized revenue - related party of $50.0 million related to the license fee and revenue - related party of $7.1 million generated from research and development services performed during 2019, the remaining $12.5 million is expected to be earned in 2020.

As of December 31, 2019, there is a receivable of $7.1 million related to the Novartis Agreement. There were no contract assets or contract liabilities as of December 31, 2019.

7. License Agreements

UC Regents

In August 2015, the Company entered into an exclusive, worldwide license agreement (the "UC Agreement") with the Regents of the University of California (the "UC Regents") relating to the use of certain patents and technology relating to avß1 compound in fibrosis indications. Pursuant to the UC Agreement, the Company is obligated to (i) make a non-refundable upfront license fee payment of $0.4 million and annual license maintenance fee payments of $10,000 per year beginning on the first anniversary of the UC Agreement escalating to $25,000 per year thereafter (ii) make royalty payments to the UC Regents of 3% of net sales of a therapeutic licensed product or 1% of net sales of a method of use licensed product, subject to an annual minimum of $1.0 million, (iii) make milestone payments up to an aggregate of $18.2 million to the UC Regents upon the occurrence of certain events, (iv) make a milestone payment based on the number of outstanding shares and a price per share as defined in the UC Agreement within 30 days of the closing of an IPO or change of control, and (v) reimburse the UC Regents for prosecution and maintenance expenses of the licensed patents without limitation. The Company will expense any payments for milestones to research and development expenses prior to receiving Federal Drug and Administration ("FDA") approval for any of its product candidates. These costs will be capitalized when FDA approval is obtained for any products being selected for commercialization and amortized over the remaining life of the patent. If the Company sublicenses its rights under the UC Agreement, it is obligated to pay the UC Regents a percentage of the total gross proceeds received in consideration of the grant of the sublicense, which total amount would be first reduced by the aggregate amount of certain research and development related expense incurred by the Company. The UC Regents have the right to purchase an amount equal to a low single-digit percent of any securities offered by the Company to investors other than to Third Rock Ventures III, L.P. ("TRV") or an affiliate of TRV. This participation right expires immediately before the completion of the IPO.

The UC Agreement can be terminated at any time upon the material breach of contract terms by either party to the agreement. The Company has the right to terminate the agreement at any time upon providing written notice to the UC Regents. Unless terminated early, the UC Agreement will remain in effect from the effective date until the later of (i) the expiration or abandonment of the patent rights licensed under the UC Agreement, or (ii) ten years from the date of the first commercial sale of the first licensed product under the agreement.

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8. Research Agreement

Adimab Development and Option Agreement

In October 2018, the Company and Adimab LLC ("Adimab") entered into a development and option agreement (the "Adimab Agreement") for the discovery and optimization of proprietary antibodies as potential therapeutic product candidates. Under the Adimab Agreement, the Company will select biological targets against which Adimab will use its proprietary platform technology to research and develop antibody proteins using a mutually agreed upon research plan.

Upon the Company's selection of a target, the Company and Adimab will initiate a research plan and the discovery term begins. During the discovery term, Adimab will grant the Company a non-exclusive, non-sublicensable license under its technology with respect to the target, to research, design and preclinically develop and use antibodies that were modified or derived using Adimab technology, solely to evaluate such antibodies, perform the Company's responsibilities under the research plan and use such antibodies for certain diagnostic purposes. The Company will also grant to Adimab a non-exclusive, non-sublicensable and non-transferable license with respect to the target under the Company's technology that covers or relates to such target, solely to perform its responsibilities under the research plan during the discovery period. The Company is required to pay Adimab at an agreed upon rate for its full-time employees during the discovery period while Adimab performs research on each target under the applicable research plan.

Adimab granted the Company an exclusive option to obtain a worldwide, royalty-bearing, sublicensable license under Adimab platform patents and other Adimab technology to research, develop and commercialize up to twenty four antibodies selected by the Company (the "Program Antibodies") against specific biological targets (the "Commercialization Option"). Upon the exercise of a Commercialization Option, and payment of the applicable option fee to Adimab, Adimab will assign the patents that cover the Program Antibodies to Company. The Company will be required to use commercially reasonable efforts to develop, seek market approval of, and commercialize at least one antibody against the target covered by the Commercialization Option in specified markets upon the exercise of a Commercialization Option.

Pursuant to the Adimab Agreement, the Company is obligated to (i) make a nonrefundable upfront license fee payment for access to Adimab's technology; (ii) pay Adimab at an agreed upon rate for each full-time employee ("FTE") during the research period; (iii) make additional payments upon the Company making other research related elections; (iv) pay up to a dollar amount in the low double digit millions for the achievement of certain research and development milestones for each research target program which can vary by target type; (v) make royalty payments to Adimab on Company net sales of its products covered under the Adimab Agreement, subject to varying royalty payments on certain product types. Currently, no product types have been selected by the Company.

During the year ended December 31, 2018, the Company recognized research and development expense under the Adimab Agreement of $0.1 million related to the technology access fees and FTE costs.

During the year ended December 31, 2019, the Company recognized research and development expense under the Adimab Agreement of $0.1 million related to antibody discovery fees and $0.2 million related to the FTE costs.

9. Redeemable Convertible Preferred Stock

Under the Company's Amended and Restated Certificate of Incorporation ("Certificate of Incorporation"), the Company is authorized to issue two classes of shares: preferred and common stock. The preferred stock may

be issued in series, and the Company's board of directors is authorized to determine the rights, preferences, and terms of each series. The following is a summary of the Company's redeemable convertible preferred stock (in thousands except share amounts):

Preferred stock consisted of the following as of December 31, 2018:

	Preferred Shares Authorized	Shares Issued and Outstanding	Redemption Value/ Liquidation Preference	Carrying Value
Series A	56,000,000	56,000,000	$ 61,516	$ 61,516
Series B	58,109,973	49,501,221	70,587	70,587
	114,109,973	105,501,221	$ 132,103	$ 132,103

Preferred stock consisted of the following as of December 31, 2019:

	Preferred Shares Authorized	Shares Issued and Outstanding	Redemption Value/ Liquidation Preference	Carrying Value
Series A	56,000,000	56,000,000	$ 62,468	$ 62,468
Series B	49,501,221	49,501,221	75,860	75,860
Series C	44,000,000	26,360,745	47,947	47,947
	149,501,221	131,861,966	$ 186,275	$ 186,275

Series A Preferred

In August 2015, the Company entered into a Series A Preferred Stock Purchase Agreement (the "Series A Purchase Agreement") pursuant to which it agreed to sell, and the purchasers agreed to purchase up to $45.0 million of Series A Redeemable Convertible Preferred Stock ("Series A Preferred") in three anticipated tranches based on the achievement of defined performance milestones. The Series A Preferred stockholders may not assign the rights to purchase shares of Series A Preferred at any future milestone closing tranches separately without a transfer of already purchased shares. The Company determined that these future tranche obligations did not meet the definition of a freestanding financial instrument because, while separately exercisable, they were not legally detachable. Further, the Company determined that the embedded future tranche obligation did not require bifurcation for accounting purposes as it was clearly and closely related to the economic characteristics and risks of the Series A Preferred and would not meet the definition of a derivative on a standalone basis.

Under the Series A Purchase Agreement, as part of the initial closing, the Company issued 6.5 million shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $6.4 million and the conversion of convertible promissory notes in the amount of $0.1 million representing outstanding principal and accrued interest.

In April 2016, the Company issued 5.0 million shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $5.0 million in an additional closing of the first tranche. The final closing of the first tranche occurred in September of 2016, when the Company issued 5.0 million additional shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $5.0 million.

In February 2017, the Company issued 8.0 million shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $8.0 million in a closing of the second tranche.

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In July 2017, the Company issued 12.0 million shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $12.0 million in an initial closing of the third tranche.

In January 2018, the Company issued 8.5 million shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $8.5 million in an additional closing of the third tranche.

In March 2018, based on the amendment to the Series A Purchase Agreement, the Company issued 11.0 million additional shares of Series A Preferred at $1.00 per share in exchange for cash proceeds of $11.0 million in the final closing of the third tranche.

Series B Preferred

In July 2018, the Company entered into a Series B Preferred Stock Purchase Agreement (the "Series B Purchase Agreement") in which it agreed to sell, and the purchasers agreed to purchase, up to $70.0 million of Series B Redeemable Convertible Preferred Stock ("Series B Preferred"). Under the Series B Purchase Agreement, the Company initially issued 45.1 million shares of Series B Preferred at $1.3767 per share in exchange for cash proceeds of approximately $62.1 million.

In November 2018, the Company issued 4.4 million additional shares of Series B Preferred at $1.3767 per share in exchange for cash proceeds of approximately $6.0 million.

Series C Preferred

In December 2019, the Company entered into a Series C Preferred Stock Purchase Agreement (the "Series C Purchase Agreement") in which it agreed to sell, and the purchasers agreed to purchase, up to $80.5 million of Series C Redeemable Convertible Preferred Stock ("Series C Preferred"). Under the Series C Purchase Agreement, the Company initially issued 26.4 million shares of Series C Preferred at $1.83 per share in exchange for aggregate cash proceeds of $48.2 million. Novartis purchased 10.9 million shares of this allotment of Series C Preferred at $1.83 per share for cash proceeds of $20.0 million. Novartis became a related party following its purchase of 10.9 million shares of our Series C Preferred, representing aggregate holdings of 7.4% of our outstanding shares on a fully diluted basis as of December 31, 2019. See Note 14 for additional information.

The Series A Preferred, Series B Preferred and Series C Preferred (collectively, the "Preferred Stock") have the following rights and privileges:

Voting

Each holder of shares of Preferred Stock is entitled to the number of votes equal to the number of shares of common stock into which such shares could be converted and has voting rights and powers equal to the voting rights and powers of the common stock, and except as provided by law or by other provisions of the Company's Certificate of Incorporation, as amended, shall vote together with the common stock as a single class on an as-converted basis on all matters as to which holders of common stock have the right to vote.

The holders of Series A Preferred, voting separately as a single class, are entitled to elect two members of the Company's board of directors. At any time when at least 12.5 million shares of Series B Preferred are outstanding, the holders of Series B Preferred are entitled to elect one member of the Company's board of directors. The holders of shares of common stock, voting separately as a single class, are entitled to elect one member of the Company's board of directors. All remaining members of the Company's board of directors are elected by the holders of the common stock and Preferred Stock voting together as a single class.

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Conversion

Shares of the Preferred Stock are convertible at any time at the option of the holder into such number of shares as is determined by dividing the original issuance price by the conversion price in effect at the time. The original conversion price is the original issuance price for each series of Preferred Stock, or $1.00 for Series A Preferred, $1.3767 for Series B Preferred and $1.83 for Series C Preferred, subject to certain adjustments. As of December 31, 2019, the Preferred Stock was convertible into shares of the Company's common stock on a one-for-one basis.

All outstanding shares of Preferred Stock will automatically convert upon the completion of an IPO resulting in net proceeds to the Company of at least $45.0 million or the vote or written consent of a requisite majority of holders of the then outstanding shares of Preferred Stock on an as-converted to common stock basis.

Dividends

The holders of Series A Preferred were originally entitled to receive cumulative dividends from their respective dates of issuance at the rate of 8.0% on their original issue price. In July 2018, in conjunction with the execution of the Series B Purchase Agreement, the Series A Preferred accreted dividends were cancelled.

Under the Series B Purchase Agreement, the holders of both shares of Series A and Series B Preferred are entitled to receive cumulative dividends commencing on July 10, 2018, the issuance date of Series B Preferred, at an annual rate of 8.0% on their original issuance price. The Series A Preferred and Series B Preferred dividends accrue from day-to-day, whether declared or not, and are payable only when and if declared by the Company's board of directors. As such, the Company recorded accretion charges to adjust the carrying values of the Series A Preferred and Series B Preferred to their redemption values up until the date the Series C Purchase Agreement was executed. In December 2019, in conjunction with the execution of the Series C Purchase agreement, the Series A preferred and Series B preferred accreted dividends were cancelled.

Under the Series C Purchase Agreement, the holders of Series A, Series B and Series C Preferred are entitled to receive non-cumulative dividends commencing on December 19, 2019 at an annual rate of 8.0% on their original issuance price. The Series A, Series B and Series C Preferred dividends accrue from day-to-day, whether declared or not, and are payable only when and if declared by the Company's board of directors. Since inception, the Company has never declared or paid any dividends.

Liquidation Preferences

Upon liquidation, dissolution, or winding up of the Company or a deemed liquidation event as defined in the Company's Certificate of Incorporation, the holders of shares of Series C and Series B Preferred Stock will receive, on a pari passu basis a per share amount equal to the Series C purchase price of $1.83 (plus any declared but unpaid dividends) and equal to the original Series B purchase of $1.3767 (plus any declared but unpaid dividends), collectively (the "Series C and Series B Liquidation Preference") or such amount per share as would have been payable had all shares of Series C and Series B had been converted into common stock immediately prior to such liquidation event. The payment of Series C and Series B Liquidation Preference is to be made before any payment made to the holders of Series A Preferred Stock and Common Stock. Thereafter, the Series A Preferred holders are entitled to receive their liquidation preference before any distributions are made to common stockholders, a per share amount equal to $1.00 (plus any declared but unpaid dividends) ('the Series A Liquidation Preference") or such amount per share as would have been payable had all shares of Series A had been converted into common stock immediately prior to such liquidation event. After payments of the full liquidation preferences of the Series C and Series B Liquidation Preference and the Series A Liquidation Preference described above, any remaining assets of the Company shall be distributed to the holders of the common stock in proportion to the number of shares of common stock that they hold.

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Redemption

The Series A Preferred were redeemable at any time on or after five years from August 19, 2015, the original issuance date of the 6.5 million shares of Series A Preferred, upon receipt of a written notice from the holders of a majority of the shares of Series A Preferred. The initial redemption price was the greater of (i) the Series A Preferred original issuance price per share, plus any accrued and unpaid dividends, whether or not declared by the board of directors, and (ii) the fair market value of Series A Preferred as mutually agreed upon by the Company and the holders of a majority of the shares of Series A Preferred then outstanding.

In July 2018, in conjunction with the execution of the Series B Preferred Purchase Agreement, the Series A Preferred redemption provision was amended as follows:

All outstanding shares of Preferred Stock shall be redeemed by the Company at a price equal to the original issuance price per share, plus any accrued and unpaid dividends, whether or not declared, together with any other dividends declared but unpaid in three annual installments commencing not more than sixty (60) days after receipt by the Company at any time on or after five years from the Series B Preferred original issuance date, July 10, 2018, a written notice from the holders of a majority of the shares of Preferred Stock.

The Company accounted for the changes in Series A Preferred redemption provision as a modification as there was no significant difference in Series A Preferred fair value before and after the modification.

In December 2019, in conjunction with the execution of the Series C Preferred Purchase Agreement, the Series A Preferred and Series B Preferred redemption provisions were modified as follows:

All outstanding shares of Preferred Stock shall be redeemed by the Company at a price equal to the original issuance price per share, plus any accrued and unpaid dividends, in three annual installments commencing not more than sixty (60) days after receipt by the Company at any time on or after five years from the Series C Preferred original issuance date, December 19, 2019, a written notice from the holders of a majority of the shares of Preferred Stock.

The Company accounted for the changes in Series A Preferred redemption and Series B Preferred redemption provisions as a modification as there was no significant difference in Series A Preferred and Series B Preferred fair values before and after the modification.

10. Common Stock

The voting, dividend, and liquidation rights of the holders of the common stock are subject to and qualified by the rights, powers, and preferences of the holders of the Preferred Stock. As of December 31, 2018 and 2019, the Company had 147,682,655 and 181,000,000 authorized shares of common stock, respectively, at a par value of $0.0001 per share. The common stock has the following rights and privileges:

Voting

The holders of shares of common stock are entitled to one vote for each share of common stock held at any meeting of stockholders and at the time of any written action in lieu of a meeting.

Dividends

The holders of shares of common stock are entitled to receive dividends, when declared by the Company’s board of directors. Cash dividends may not be declared or paid to holders of shares of common stock until all unpaid dividends on the Preferred Stock have been paid in accordance with their terms. No dividends have been declared or paid by the Company since its inception.

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After payment of the respective liquidation preferences to the holders of shares of Preferred Stock, the holders of shares of common stock are entitled to share ratably in the Company's remaining assets available for distribution to its stockholders in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company or upon occurrence of a deemed liquidation event.

Shares reserved for future issuance

	As of December 31,	
	2018	2019
Conversion of redeemable convertible preferred stock	105,501,221	131,861,966
Exercises of outstanding stock option awards	809,200	9,563,137
Shares of common stock available for future grants under the 2015 Equity Incentive Plan, as amended	7,029,718	4,054,837
Total shares reserved for future issuance	113,340,139	145,479,940

Founders' Common Stock Awards

During 2015, the Company's board of directors granted common stock awards to the Company's founders in exchange for services provided to the Company. The purchase price of the common stock awards was the estimated fair value at the issuance date. The shares vest from one to four years and vesting could be accelerated upon a change in control. The vesting of certain performance-based grants of restricted stock awards were contingent upon the filing of an Investigational New Drug Application by the Company with the FDA.

If the holder of founders' common stock award terminates their relationship with the Company during the vesting period, the Company may repurchase any unvested restricted common stock held by these individuals at their original purchase price. During the vesting term, holders of founders' common stock awards are deemed to be common stockholders and have dividend and voting rights. The Company issued 5,328,500 shares of founders' common stock during 2015. No founders' common stock awards were granted in subsequent years. Total compensation expense was $25,000 for these founders' common stock awards, which are recorded to operating expenses in the statements of operations over their respective vesting period. As of December 31, 2018, 333,729 shares of founders' common stock awards were expected to vest and vested in 2019. As of December 31, 2019, all shares of founders' common stock awards were fully vested.

11. 2015 Equity Incentive Plan and Stock-Based Compensation

In August 2015, the board of directors adopted the 2015 Equity Incentive Plan, as amended (the "Plan"), which provides for the grant of incentive stock options, nonqualified stock options or other awards including stock appreciation rights and restricted stock awards to the Company's employees, officers, directors, advisors, and consultants for the purchase of up to 11.0 million shares of the Company's common stock. In July 2018, the Plan was amended to increase the number of shares reserved thereunder by 7.2 million shares. In January 2019, the Company's board of directors and shareholders voted to increase the number of shares reserved for issuance under the 2015 Equity Incentive Plan by 3.0 million shares. In December 2019, the Company's board of directors and shareholders voted to increase the number of shares reserved for issuance under the 2015 Equity Incentive Plan by 3.0 million shares. As of December 31, 2019, 4.1 million shares remained available for issuance under the Plan.

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Options under the Plan may be granted for periods of up to 10 years and at prices no less than 100.0% of the estimated fair value of the shares on the date of grant as determined by the board of directors, provided, however, that the exercise price of an incentive stock option granted to a 10.0% shareholder shall not be less than 110.0% of the estimated fair value of the shares on the date of grant and the option is not exercisable after the expiration of five years from the date of grant.

Restricted Common Stock Awards

The Company granted restricted stock awards under the Plan. The purchase price of the restricted common stock awards was the estimated fair value as determined by the board of directors at the issuance date. The shares vest from one to four years and vesting could be accelerated upon a change in control. A holder of an award may pay a total purchase price or a part of the purchase price for granted shares at any time during the vesting periods. Upon termination of employment, the Company has the right to repurchase any unvested restricted shares. The repurchase price for unvested shares of common stock will be the lower of (i) the fair market value on the date of repurchase or (ii) their original purchase price. During the vesting term, holders of restricted stock awards are deemed to be a common stock shareholder and have dividends and voting rights.

The Company accounted for restricted stock awards as early exercised options and recognized a liability in other liabilities when cash was received for the purchase of shares of restricted stock. As shares of restricted stock vested, the Company reclassified the liability to common stock and additional paid in capital. As of December 31, 2018, and 2019, the Company recorded a liability included in accrued expenses and other liabilities of $52,000 and $22,000, respectively.

The Company used Black-Scholes option pricing model to estimate stock-based compensation expense related to restricted stock awards with the following assumptions for the year ended December 31, 2018:

	2018
Expected volatility	69.60% - 76.20%
Risk-free interest rate	1.80% - 2.48%
Expected dividend	— %
Expected term (in years)	0.92 - 2.16
Underlying common stock fair value	$0.26 - $0.33

There were no grants of restricted stock awards for the year ended December 31, 2019.

The following table summarizes restricted stock activity during the years ended December 31, 2018 and 2019:

	Number of Shares	Weighted-Average Grant Date fair value
Outstanding and unvested, as of December 31, 2017	4,603,277	$ 0.06
Issued	2,428,248	$ 0.29
Vested	(2,003,725)	$ 0.05
Outstanding and unvested, as of December 31, 2018	5,027,800	$ 0.17
Issued	—	$ —
Vested	(2,819,169)	$ 0.14
Exercised	2,600	$ 0.30
Repurchases	(50,417)	$ 0.28
Outstanding and unvested, as of December 31, 2019	2,160,814	$ 0.21

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Restricted stock awards of 30,000 shares with a weighted-average grant date fair value of $0.005 per share, were not purchased by the award holders as of December 31, 2019. As these shares of the restricted common stock awards were not issued, they are not included in the table above.

The aggregate fair value of restricted stock awards vested during the years ended December 31, 2018 and 2019 was $0.1 million and $0.4 million, respectively. Total intrinsic value of outstanding unvested restricted stock awards was $3.6 million and $2.1 million as of December 31, 2018 and 2019, respectively.

Incentive Stock Options and Nonqualified Stock Options

Stock options issued under the Plan generally vest over a four-year period and expire ten years from the date of grant. Certain options provide for accelerated vesting if there is a change in control, as defined in the Plan.

The Company used Black-Scholes option pricing model to estimate stock-based compensation expense for stock option awards with the following assumptions for the years ended December 31, 2018 and 2019:

	2018	2019
Expected volatility	81.80% - 82.50%	74.80% - 82.53%
Risk-free interest rate	2.78% - 3.07%	1.43% - 2.59%
Expected dividend	— %	—
Expected term (in years)	5.78 - 6.06	5.00 - 6.08
Underlying common stock fair value	$0.39 - $0.72	$0.59 - $0.74

The Company granted 809,200 stock options during the year ended December 31, 2018.

A summary of option activity under the Plan is as follows:

	Number of Options	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (in Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2018	809,200	$ 0.29	9.77	$ 348
Granted	9,316,747	$ 0.46		
Exercised	(300,726)	$ 0.58		
Forfeited	(262,084)	$ 0.29		
Outstanding as of December 31, 2019	9,563,137	$ 0.45	9.18	$ 5,157
Exercisable as of December 31, 2019	1,631,464	$ 0.30	9.06	$ 1,122
Vested and expected to vest as of December 31, 2019	9,563,137	$ 0.45	9.18	$ 5,157

Aggregate intrinsic value represents the difference between the fair value of the underlying common stock and the exercise price as of December 31, 2018 and 2019. The weighted-average grant date fair value of options granted during the years ended December 31, 2018 and 2019, was $0.48 per share and $0.61 per share, respectively.

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Stock-Based Compensation Expense

The following table presents the components and classification of stock-based compensation expense for the Company's stock-based awards for the years ended December 31, 2018 and 2019 (in thousands):

	Years Ended December 31,	
	2018	2019
Restricted stock awards and founders' common stock awards	$ 207	$ 321
Stock options	21	1,508
Total stock-based compensation expense	$ 228	$ 1,829
Research and development expenses	$ 114	$ 584
General and administrative expenses	$ 114	$ 1,245

As of December 31, 2018, there was $0.7 million of unrecognized stock-based compensation expense that is expected to be recognized over the weighted-average periods of 2.2 years related to restricted stock awards and stock options, respectively. As of December 31, 2018, there was $0.4 million of unrecognized stock-based compensation expense that is expected to be recognized over the weighted-average periods of 3.7 years related to stock options.

As of December 31, 2019, there was $0.4 million of unrecognized compensation costs that is expected to be recognized over the weighted-average periods of 2.2 years related to restricted stock awards. As of December 31, 2019, there was $4.4 million of unrecognized compensation costs that is expected to be recognized over the weighted-average periods of 3.0 years related to stock options.

12. Income Taxes

No provision for income taxes was recorded for the years ended December 31, 2018 and December 31, 2019. The Company has incurred net operating losses only in the United States since its inception. The Company has not reflected any benefit of such net operating loss carryforwards in the financial statements.

A reconciliation of the U.S. federal statutory income tax rate to the Company's effective income tax rate is as follows:

	Year Ended December 31,	
	2018	2019
Income tax computed at federal statutory rate	21.0%	21.0%
State taxes, net of federal tax benefit	9.1%	2.7%
General business credit—federal	2.6%	295.9%
Stock-based compensation	(0.2%)	(50.0%)
Other permanent differences	(0.0%)	(2.4%)
Change in valuation allowance	(32.5%)	(267.7%)
Effective income tax rate	— %	(0.5%)

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Net deferred tax assets and liabilities consisted of the following (in thousands):

	As of December 31,	
	2018	2019
Deferred tax assets:		
Asset basis	$ 227	$ —
Net operating losses	16,684	16,655
Research and development credits	3,048	4,949
Accrued expenses	88	130
Other	147	247
Deferred rent	110	124
Stock based compensation	1	73
Total deferred tax assets	20,305	22,178
Deferred tax liabilities:		
Asset basis	$ —	$ (110)
Prepaid expenses	(65)	(139)
Total deferred tax liabilities	(65)	(249)
Valuation allowance	(20,240)	(21,929)
Net deferred taxes	$ —	$ —

Net operating losses and tax credit carryforwards were as follows (in thousands):

	As of December 31, 2019	Expiration Year
Net operating losses, federal (starting from January 1, 2018)	$ 29,218	Does not expire
Net operating losses, federal (before January 1, 2018)	$ 29,457	2035-2037
Net operating losses, state	$ 60,711	2035-2039
Tax credits, federal	$ 4,652	2036-2039
Tax credits, state	$ 2,100	Does not expire

Utilization of the net operating loss carryforwards and research credit carryforwards may be subject to an annual limitation due to the ownership percentage change limitations provided by the Internal Revenue Code and similar state provisions. Annual limitations may result in the expiration of the net operating losses and tax credit carryforwards before they are utilized. The Company performed a IRC Section 382 analysis through December 31, 2019 and does not expect any previous ownership changes to result in a limitation that will reduce the total amount of net operating loss and tax credit carryforwards disclosed that can be utilized. Subsequent ownership changes may affect the limitation in future years.

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During the years ended December 31, 2018 and 2019, the Company recorded a full valuation allowance on federal and state deferred balances since management does not forecast the Company to be in a profitable position in the near future. Changes in the valuation allowance for deferred tax assets during the years ended December 31, 2018 and 2019 related primarily to the increases in net operating loss carryforwards and research and development tax credit carryforwards and were as follows (in thousands):

	Year Ended December 31,	
	2018	2019
Valuation allowance at the beginning of the year	$10,408	$20,240
Increases recorded to income tax provision	9,832	1,689
Valuation allowance at the end of the year	$20,240	$21,929

The Company's U.S. federal and state income tax returns are generally subject to tax examinations for the tax years ended December 31, 2016 through December 31, 2019. There are currently no pending income tax examinations. To the extent the Company has tax attribute carryforwards, the tax years in which the attribute was generated may still be adjusted upon examination by the Internal Revenue Service and state tax authorities to the extent utilized in a future period. The Company's policy is to record interest and penalties related to income taxes as part of its income tax provision.

The entire amount of the unrecognized tax benefits would not impact the Company's effective tax rate if recognized. The Company has elected to include interest and penalties as a component of tax expense. During the years ended December 31, 2018 and 2019, the Company did not recognize accrued interest and penalties related to unrecognized tax benefits. The Company does not anticipate that the amount of existing unrecognized tax benefits will significantly increase or decrease during the next 12 months.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	Year Ended December 31,	
	2018	2019
January 1	$403	$ 855
Additions based on tax positions related to current year	452	570
Reductions for tax positions of prior year	—	(70)
December 31	$855	$1,355

13. Commitments and Contingencies

Purchase Commitments

The Company has contractual arrangements with research and development organizations and suppliers; however, these contracts are generally cancelable on 30 days' notice and the obligations under these contracts are largely based on services performed.

License and Collaboration Agreements

Potential payments related to the Company's license and research agreements, including milestone and royalty payments, are detailed in Notes 6 and 7.

Pliant Therapeutics, Inc.
Notes to Financial Statements

Leases

In 2018, the Company leased approximately 18,000 square feet of corporate offices and research facilities in Redwood City, California. Rent expense, including common area maintenance expense, was approximately $0.1 million per month. This lease expired on June 28, 2018.

In February 2018, the Company entered into a non-cancelable lease agreement (the "Lease") for premises consisting of approximately 32,974 square feet located in South San Francisco, California (the "Premises"). The Company moved into the Premises in July 2018. The Premises is being used for the Company's corporate headquarters and principal operating facility. The term of the Lease is eighty-four months, which commenced on July 1, 2018. Base rent was abated for the first two months of the lease term and thereafter is $0.2 million per month during the first year of the lease term, with specified annual increases thereafter. The Company paid a refundable security deposit of approximately $0.4 million, which is included in Other non-current assets in the Balance Sheets at December 31, 2018 and 2019. The Company has the right to extend the lease term by seven years upon written notice not more than twelve months nor less than nine months prior to the expiration of the original lease term, with monthly payments equal to the "fair rental value" as defined in the Lease.

During the years ended December 31, 2018 and 2019, rent expense, including common area maintenance expense, was $1.8 million and $2.5 million, respectively.

Future minimum lease payments under the Lease as of December 31, 2019 were as follows (in thousands):

Year ending December 31:	Operating Lease
2020	$ 1,959
2021	2,027
2022	2,098
2023	2,171
2024 and beyond	3,390
Total	$ 11,645

Legal Proceedings

The Company, from time to time, may be party to litigation arising in the ordinary course of business. The Company was not subject to any material legal proceedings during the years ended December 31, 2018 and 2019, and, to the best of its knowledge, no material legal proceedings are currently pending or threatened.

Indemnification

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has never incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

Pliant Therapeutics, Inc.
Notes to Financial Statements

14. Related Party Transactions

Certain employees of Third Rock Ventures, a stockholder of the Company, provided consulting services to the Company. Consulting service expenses of $0.1 million and $36,000 were recorded for the years ended December 31, 2018 and 2019, respectively.

In 2018 and 2019, the Company made charitable contributions to the University of California, San Francisco Foundation (the "UCSF Foundation"), which were directed to support research performed in the laboratories of two of the Company's scientific founders. The Company made a charitable contribution of $0.5 million and $0.3 million for the years ended December 31, 2018 and 2019, respectively.

In February 2017, the Company entered into a consulting agreement with the founder of Healthcare & Humanity Foundation (the "Director") pursuant to which the Director provided consulting services to the Company at a rate of $5,000 per month in 2018. In addition, the Company granted the Director 45,000 shares of restricted stock at a purchase price of $0.01 per share with quarterly vesting over a one-year period contingent upon the Director providing consulting services during the vesting period. The Director became a director of the Company in December 2017. In February 2018, the agreement with the Director terminated pursuant to its terms. General and administrative services provided while the Director was a director of the Company amounted to $5,000 and $0, respectively during the years ended December 31, 2018 and 2019.

In March 2018, the Company sold 1.0 million shares of Series A Preferred to pH Pharma Co. Ltd. ("pH Pharma"), an entity in which the Director has a majority ownership, for $1.0 million. These shares of Series A Preferred represent 1.0% of the Company's outstanding equity on a fully diluted basis as of December 31, 2019. In May 2018, the Company entered into a research services agreement with pH Pharma. In the year ended December 31, 2018, the Company was reimbursed $51,000 for services performed in connection with the research service agreement. As of December 31, 2018, all services were completed under this agreement.

In 2019, the Company entered into the Novartis Agreement with Novartis covering the development and commercialization of Pliant's preclinical product candidate, PLN-1474 and up to three additional targets. Upon execution of the Agreement, Pliant also entered into a financing side letter with Novartis, whereby Novartis committed to provide up to $30.0 million in equity financing of which $20.0 million was provided for preferred shares as a part of a Series C equity offering and the remaining $10.0 million will be provided for common shares in the event Pliant completes an Initial Public Offering. As of December 31, 2019, Novartis owns approximately 7.4% of the Company's outstanding shares on a fully diluted basis. See Notes 6 and Note 9 for additional information.

15. Defined Contribution Plan

The Company sponsors a defined contribution plan under Section 401(k) of the Internal Revenue Code covering substantially all full-time U.S. employees. Employee contributions are voluntary and are determined on an individual basis subject to the maximum allowable under federal tax regulations. The Company made contributions to the plan of $0.2 million and $0.2 million for the years ended December 31, 2018 and 2019, respectively.

Pliant Therapeutics, Inc.
Notes to Financial Statements

16. Net Loss Per Share Attributable to Common Stockholders

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented, because including them would have been antidilutive:

	Years Ended December 31,	
	2018	2019
Redeemable convertible preferred stock (on an as-converted basis)	105,501,221	131,861,966
Options to purchase common stock	809,200	9,563,137
Restricted stock awards granted and not purchased	32,600	30,000
Unvested restricted shares	5,027,800	2,160,814
Unvested shares of founders' common stock	333,729	—
Total	111,704,550	143,615,917

A reconciliation of the numerator and denominator used in the calculation of the basic and diluted net loss per share attributable to common stockholders is as follows (in thousands, except share and per share amounts):

	Years Ended December 31,	
	2018	2019
Net loss per share:		
Numerator		
Net loss	$ (30,276)	$ (631)
Add: accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	(4,876)	(6,225)
Net loss attributable to common stockholders	$ (35,152)	$ (6,856)
Denominator		
Weighted-average common shares outstanding used to calculate net loss per share attributable to common stockholders, basic and diluted	8,333,000	11,608,180
Net loss per share attributable to common stockholders, basic and diluted	$ (4.22)	$ (0.59)

Pliant Therapeutics, Inc.
Notes to Financial Statements

The following table sets forth the computation of the Company's unaudited pro forma basic and diluted net loss per share attributable to common stockholders (in thousands, except share and per share data) assuming the automatic conversion of the redeemable convertible preferred stock based on the mid-point of the IPO price range of $, upon consummation of an IPO as if such event had occurred as of the beginning of the respective period:

	Year Ended December 31, 2019 (unaudited)
Unaudited Pro Forma Net Loss Per Share	
Net loss	$
Pro forma adjustment to accretion to redemption value and cumulative dividends on redeemable convertible preferred stock	
Pro forma net loss attributable to common stockholders, basic and diluted	
Weighted-average shares used to calculate net loss per share attributable to common stockholders, basic and diluted	
Pro forma adjustment to reflect assumed conversion of all redeemable convertible preferred stock	
Weighted-average shares used to calculate pro forma net loss per share attributable to common stockholders, basic and diluted	
Pro forma net loss per share attributable to common stockholders, basic and diluted	$

17. Subsequent Events

In February 2020, the Company issued 28,527,313 shares of Series C Preferred at $1.83 per share in exchange for an aggregate purchase price of $52.2 million in a closing of the second tranche. The sales of the Series C Preferred Shares are at a fair value of $1.83, which was the price the remaining share of Series C Redeemable Convertible Preferred Stock were sold to other investors in a closing that occurred on December 19, 2019.

In February 2020, the Company achieved the first patient dosing milestone of the Novartis Agreement triggering the receipt of a $25.0 million payment expected in the second quarter of 2020.

The Company has evaluated subsequent events for financial statement purposes occurring through March 13, 2020, the date these financial statements were issued, and determined that no additional subsequent events had occurred that would require recognition in these financial statements and that all subsequent events that required disclosure have been disclosed.

Shares

Pliant Therapeutics, Inc.

Common Stock

PRELIMINARY PROSPECTUS

, 2020

Joint Book-Running Managers

Citigroup
Cowen
Piper Sandler

Lead Manager

Needham & Company

Through and including , 2020 (25 days after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

Part II

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the fees and expenses, other than underwriting discounts and commissions, payable in connection with the registration of the common stock hereunder. All amounts are estimates except the SEC registration fee, the FINRA filing fee and the Nasdaq Global Market listing fee.

	Amount Paid or to Be Paid
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq Global Market listing fee	*
Printing and mailing	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*
Total	$ *

* To be completed by amendment.

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, or the DGCL, authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our amended and restated certificate of incorporation and amended and restated bylaws to be in effect immediately prior to the completion of this offering that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders; any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law; any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We intend to enter into indemnification agreements with each of our directors and executive officers. These agreements will provide that we will indemnify each of our directors, certain of our executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, we will agree in the indemnification agreements that our obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We will maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act of 1933, as amended, or the Securities Act.

The underwriting agreement filed as Exhibit 1.1 to this registration statement provides for indemnification of us and our directors and officers by the underwriters against certain liabilities under the Securities Act and the Securities Exchange Act of 1934.

Item 15. Recent Sales of Unregistered Securities.

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act. No underwriters were involved in the sales and the certificates representing the securities sold and issued contain legends restricting transfer of the securities without registration under the Securities Act or an applicable exemption from registration.

(a) Issuances of Capital Stock

In February 2017, we sold an aggregate of 8,000,000 shares of our Series A redeemable convertible preferred stock at a purchase price of $1.00 per share for an aggregate purchase price of approximately $8.0 million.

In July 2017, we sold an aggregate of 12,000,000 shares of our Series A redeemable convertible preferred stock at a purchase price of $1.00 per share for an aggregate purchase price of approximately $12.0 million.

In January 2018, we sold an aggregate of 8,500,000 shares of our Series A redeemable convertible preferred stock at a purchase price of $1.00 per share for an aggregate purchase price of approximately $8.5 million.

In March 2018, we sold an aggregate of 11,000,000 shares of our Series A redeemable convertible preferred stock at a purchase price of $1.00 per share for an aggregate purchase price of approximately $11.0 million.

In July 2018, we sold an aggregate of 45,142,960 shares of our Series B redeemable convertible preferred stock at a purchase price of $1.3767 per share for an aggregate purchase price of approximately $62 million.

In November 2018, we sold an aggregate of 4,358,261 shares of our Series B redeemable convertible preferred stock at a purchase price of $1.3767 per share for an aggregate purchase price of approximately $6 million.

From December 2019 through February 2020 we sold an aggregate of 54,888,058 shares of our Series C redeemable convertible preferred stock at a purchase price of $1.83 per share for an aggregate purchase price of approximately $100.4 million.

The offers and sales of the securities described above were deemed to be exempt from registration pursuant to Section 4(a)(2) of the Securities Act, including Regulation D and Rule 506 promulgated thereunder, as transactions by an issuer not involving a public offering. All of the purchasers in these transactions represented to us in connection with their purchase that they were acquiring the securities for investment and not distribution, that they could bear the risks of the investment and could hold the securities for an indefinite period of time. Such purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration or an available exemption from such registration. All of the foregoing securities are deemed restricted securities for the purposes of the Securities Act.

(b) Grants and Exercises of Stock Options and Restricted Stock

Since January 1, 2017, we granted stock options to purchase 19,244,133 shares of our common stock to our employees, directors and consultants at a weighted average exercise price of $0.72 per share under the 2015 Plan. We also granted the right to purchase an aggregate of 4,055,136 shares of restricted stock to our employees, directors and consultants at a weighted average purchase price of $0.01 per share under the 2015 Plan. We sold an aggregate of 5,305,863 shares of common stock to employees, directors and consultants for cash consideration in the aggregate amount of $249,532 pursuant to the exercise of stock options and purchase of restricted stock under the 2015 Plan.

The issuances of the securities described above were deemed to be exempt from registration pursuant to Section 4(a)(2) of the Securities Act or Rule 701 promulgated under the Securities Act as transactions pursuant to compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were the registrant's employees, consultants or directors and received the securities under the registrant's 2015 Equity Incentive Plan. The shares of common stock issued upon the exercise of options are deemed to be restricted securities for purposes of the Securities Act.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

Exhibit No.	Description
1.1*	Form of Underwriting Agreement.
3.1	Amended and Restated Certificate of Incorporation, as amended, of the Registrant, as currently in effect.
3.2*	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect immediately prior to completion of the offering.
3.3+	Bylaws of the Registrant and the amendments thereto, as currently in effect.
3.4*	Form of Amended and Restated Bylaws of the Registrant, to be in effect immediately prior to the completion of the offering.
4.1*	Specimen Common Stock Certificate of the Registrant.

Exhibit No.	Description
4.2+	Amended and Restated Investors' Rights Agreement by and among the Registrant and certain of its stockholders, dated December 19, 2019.
5.1*	Opinion of Goodwin Procter LLP.
10.1#	2015 Equity Incentive Plan and forms of award agreements thereunder.
10.2*#	2020 Stock Option and Incentive Plan and forms of award agreements thereunder.
10.3*#	2020 Employee Stock Purchase Plan.
10.4*#	Senior Executive Cash Incentive Bonus Plan.
10.5#+	Non-Employee Director Compensation Policy.
10.6#+	Executive Severance Plan.
10.7#+	Offer Letter, by and between the Registrant and Bernard Coulie, M.D., Ph.D., dated October 12, 2015.
10.8#+	Offer Letter, by and between the Registrant and Hans Hull, dated February 10, 2016.
10.9#+	Offer Letter, by and between the Registrant and Keith Cummings, M.D., MBA, dated November 29, 2018.
10.10#+	Offer Letter, by and between the Registrant and Éric Lefebvre, M.D., dated February 28, 2018.
10.11#+	Offer Letter, by and between the Registrant and Barbara Howes, dated May 1, 2019.
10.12*	Form of Indemnification Agreement, by and between the Registrant and each of its directors and officers.
10.13+	Office Lease, by and between the Registrant and 260 Littlefield Avenue South San Francisco, California 94080, dated February 6, 2018.
10.14†	Collaboration and License Agreement, by and between the Registrant and Novartis Institutes For Biomedical Research, Inc., dated October 17, 2019.
23.1*	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm.
23.2*	Consent of Goodwin Procter LLP (included in Exhibit 5.1).
24.1*	Power of Attorney (included on signature page).

+ Previously filed.
* To be filed by amendment.
† Certain confidential portions (indicated by brackets and asterisks) have been omitted from this exhibit.
# Represents management compensation plan, contract or arrangement.

(b) Financial statement schedules.

None.

Item 17. Undertakings.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for

indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned hereby undertakes that:

(1) The undersigned Registrant will provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

(2) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(3) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Francisco, California, on the day of , 2020.

PLIANT THERAPEUTICS, INC.

By: _____
Bernard Coulie, M.D., Ph.D.
President, Chief Executive Officer and Director

Power of Attorney

Each person whose individual signature appears below hereby authorizes and appoints Bernard Coulie and Keith Cummings and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney in fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this Registration Statement, including any and all post effective amendments and amendments thereto, and any registration statement relating to the same offering as this Registration Statement that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys in fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys in fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated below.

Signature	Title	Date
Bernard Coulie, M.D., Ph.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	, 2020
Keith Cummings, M.D., MBA	Chief Financial Officer (Principal Financial and Accounting Officer)	, 2020
Hoyoung Huh, M.D., Ph.D.	Lead Director	, 2020
Suzanne Bruhn, Ph.D.	Director	, 2020
Gayle Crowell	Director	, 2020
John Curnutte, M.D.	Director	, 2020
Neil Exter	Director	, 2020

Signature	Title	Date
Charles Homcy, M.D.	Director	, 2020
Kevin Raidy	Director	, 2020
Smital Shah	Director	, 2020

Exhibit 3.1

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF PLIANT THERAPEUTICS, INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

PLIANT THERAPEUTICS, INC., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "***General Corporation Law***"),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Pliant Therapeutics, Inc. and that this corporation was originally incorporated pursuant to the General Corporation Law on June 8, 2015.

2. That the Board of Directors of the Corporation (the "***Board***") duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Pliant Therapeutics, Inc. (the "***Corporation***").

SECOND: The address of the registered office of the Corporation in the State of Delaware is 850 New Burton Road, Suite 201, City of Dover, County of Kent, 19904. The name of its registered agent at such address is Cogency Global Inc.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 181,000,000 shares of Common Stock, $0.0001 par value per share ("***Common Stock***") and (ii) 149,501,221 shares of Preferred Stock, $0.0001 par value per share ("***Preferred Stock***").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). No person entitled to vote at an election for directors may cumulate votes to which such person is entitled unless required by applicable law at the time of such election. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of the Amended and Restated Certificate of Incorporation (the "***Certificate of Incorporation***")) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

56,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated "***Series A Preferred Stock***," 49,501,221 shares of the authorized Preferred Stock of the Corporation are hereby designated "***Series B Preferred Stock***" and 44,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated "***Series C Preferred Stock***". The Series C Preferred Stock and the Series B Preferred Stock are collectively referred to herein as the "***Senior Preferred Stock***". The Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall have the rights, preferences, powers, privileges and restrictions, qualifications and limitations set forth herein. Unless otherwise indicated, references to "sections" or "subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends. The holders of Preferred Stock shall be entitled to receive, on a *pari passu* basis, dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock) on the Common Stock at the applicable Dividend Rate (as defined below), payable when, as and if declared by the Board of Directors; provided, however, that any and all dividends on the Series A Preferred Stock and Series B Preferred Stock declared and/or accrued prior to the Series C Original Issue Date (as defined below) are hereby canceled. Such dividends shall not be cumulative. After payment of the foregoing dividends, any additional dividends or distributions shall be distributed among all holders of Common Stock and Preferred Stock in proportion to the number of shares of Common Stock that would be held by each such holder if all shares of Preferred Stock were converted to Common Stock at the then effective conversion rate. "***Dividend Rate***" shall mean $0.08 for each share of Series A Preferred Stock, $0.1101 for each share of Series B Preferred Stock, and $0.1464 for each share of Series C Preferred Stock (each, as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like).

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Senior Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the holders of shares of Senior Preferred Stock then outstanding shall be entitled to be paid, on a *pari passu* basis, out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Series A Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the applicable Original Issue Price (as defined below), plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Senior Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event (such amount, with respect to the Series B Preferred Stock, the "***Series B Liquidation Preference"*** and, with respect to the Series C Preferred Stock, the ***"Series C Liquidation Preference"***). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Senior Preferred Stock the full amount to which they together shall be entitled under this Subsection 2.1, the holders of shares of Senior Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The "***Original Issue Price***" shall mean $1.00 per share for each share of Series A Preferred Stock, $1.3767 per share for each share of Series B Preferred Stock and $1.83 per share for each share of Series C Preferred Stock (each as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like).

2.2 Preferential Payments to Holders of Series A Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after payment in full of the Series B Liquidation Preference and Series C Liquidation Preference as set forth in Subsection 2.1, the holders of shares of Series A Preferred Stock then outstanding shall be entitled to be paid out of the remaining assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the Series A Original Issue Price, plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Series A Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event (the "***Series A Liquidation Preference***"). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the remaining assets of the Corporation available for distribution to its stockholders after giving effect to the payment of the Series B Liquidation Preference and Series C Liquidation Preference shall be insufficient to pay the holders of shares of Series A Preferred Stock the full amount to which they shall be entitled under this Subsection 2.2, the holders of shares of Series A Preferred Stock shall share ratably in any distribution of the remaining assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.3 Payments to Holders of Common Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock (including the Series C Liquidation Preference, Series B Liquidation Preference and Series A Liquidation Preference), the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of shares of Common Stock, *pro rata* based on the number of shares held by each such holder.

2.4 Deemed Liquidation Events.

2.4.1 Definition. Each of the following events shall be considered a "***Deemed Liquidation Event***" unless the holders of at least a majority of the outstanding shares of Preferred Stock, voting together as a single class on an as-converted to Common Stock basis (the "***Requisite Majority***"), elect otherwise by written notice sent to the Corporation at least 5 (five) days prior to the effective date of any such event:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation; or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger, consolidation or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

2.4.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the "***Merger Agreement***") provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(ii) or 2.3.1(b) if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90th) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause; (ii) to require the redemption of such shares of Preferred Stock, and (iii) unless the holders of the Requisite Majority request otherwise in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the "***Available Proceeds***"), on the one hundred fiftieth (150th) day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share equal to the Series A Liquidation Preference, in the case of Series A Preferred Stock, the Series B Liquidation Preference, in the case of Series B Preferred Stock, or the Series C Liquidation Preference, in the case of Series C Preferred Stock to the fullest extent of such Available Proceeds, in accordance with the payment priorities set forth in Subsections 2.1, 2.2 and 2.3. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation shall first ratably redeem each holder's shares of Senior Preferred Stock together to the fullest extent of such Available Proceeds, and after paying or setting aside for payment all such amounts and redeeming all shares of Senior Preferred Stock, shall thereafter ratably redeem each holder's shares of Series A Preferred Stock to the fullest extent of such Available Proceeds and shall redeem (with the same priority of the Senior Preferred Stock over the Series A Preferred Stock) the remaining shares of Series C Preferred Stock, Series B Preferred Stock and/or Series A Preferred as soon as it may lawfully do so under Delaware law governing distributions to stockholders. Prior to the distribution or redemption provided for in this Subsection 2.4.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

2.4.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board.

2.4.4 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Subsection 2.4.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "***Additional Consideration***"), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "***Initial Consideration***") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this Subsection 2.4.4, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of the Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class.

3.2 Election of Directors. (A) The holders of record of the shares of Series A Preferred Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation; (B) the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect one (1) director of the Corporation; (C) at any time when at least 12,500,000 shares of Series B Preferred Stock subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock) are outstanding, the holders of record of the shares of Series B Preferred Stock, exclusively and as a separate class, shall be entitled to elect one (1) director of the Corporation; and (D) the holders of record of the shares of Preferred Stock and Common Stock, voting together as a single class, shall be entitled to elect all remaining directors of the Corporation. Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Series A Preferred Stock, Series B Preferred Stock or Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Subsection 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Series A Preferred Stock, Series B Preferred Stock or Common Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class.

The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Subsection 3.2 a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2. Notwithstanding the foregoing or the provisions of Sections 223(a)(1) and 223(a)(2) of the DGCL, any vacancy on the Board to be filled by the holders of record of the shares of Common Stock and Preferred Stock voting together as a single class pursuant to clause (D) above, which such holders fail to fill, may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual meeting and until their successors are duly elected and shall qualify, unless sooner displaced.

3.3 Preferred Stock Majority Vote Protective Provisions. At any time when at least 35,000,000 shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock) are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the Requisite Majority given in writing or by vote at a meeting, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.3.1 liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent to any of the foregoing;

3.3.2 amend, alter, waive or repeal any provision of the Certificate of Incorporation or Bylaws of the Corporation in a manner that adversely affects the powers, privileges, preferences or rights of the Preferred Stock;

3.3.3 create, or authorize the creation of (by reclassification, alteration or otherwise), or issue or obligate itself to issue shares of, any additional class or series of capital stock, or increase the authorized number of shares of Preferred Stock or increase the authorized number of shares of any additional class or series of capital stock unless the same ranks junior to the Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption;

3.3.4 purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, (ii) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock and

(iii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof; or

3.3.5 decrease the authorized number of directors constituting the Board.

3.4 Preferred Stock Supermajority Vote Protective Provisions. At any time when at least 35,000,000 shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock) are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the holders of at least two thirds of the outstanding shares of Preferred Stock, voting together as a single class on an as-converted to Common Stock basis (the "***Requisite Supermajority***") given in writing or by vote at a meeting, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.4.1 effect any Deemed Liquidation Event that could result in payment of proceeds to the holders of the Series B Preferred Stock with respect to such shares in an amount less than the Series B Liquidation Preference per share of Series B Preferred Stock;

3.4.2 effect any Deemed Liquidation Event that could result in payment of proceeds to the holders of the Series C Preferred Stock with respect to such shares in an amount less than the Series C Liquidation Preference per share of Series C Preferred Stock;

3.4.3 create (by reclassification, alteration or otherwise) any new class or series of capital stock ranking senior to the Series C Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption if shares of such new class or series of capital stock shall be issued at a per share price below the Series C Original Issue Price (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock).

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

4.1 Right to Convert. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the applicable Original Issue Price by the applicable Conversion Price (as defined below) in effect at the time of conversion. The "***Series C Conversion Price***" shall initially be equal to $1.83. The "***Series B Conversion Price***" shall initially be equal to $1.3767. The "***Series A Conversion Price***" shall

initially be equal to $1.00. The Series C Conversion Price, the Series B Conversion Price and the Series A Conversion Price shall each be referred to herein as a "***Conversion Price***." Such initial applicable Conversion Price, and the rate at which shares of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of any series of Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "***Conversion Time***"), and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of the series of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when any shares of Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price of a series of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of such series of Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock and the associated series of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Conversion Price of a series of Preferred Stock shall be made for any declared but unpaid dividends on such series of Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to the Applicable Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "***Series C Original Issue Date***" shall mean the date on which the first share of Series C Preferred Stock was issued.

(c) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series C Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "***Exempted Securities***"):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4.5, 4.6, 4.7 or 4.8:

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board;

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board; or

(vi) shares of Common Stock, Options or Convertible Securities issued pursuant to sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board.

4.4.2 No Adjustment of Conversion Price. No adjustment in the Series C Conversion Price shall be made as a result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least a majority of the shares of Series C Preferred Stock then outstanding agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Series B Conversion Price shall be made as a result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least a majority of the shares of Series B Preferred Stock then outstanding agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Series A Conversion Price shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least a majority of the shares of Series A Preferred Stock then outstanding agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series C Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Conversion Price for such series of Preferred Stock as would have been obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Conversion Price of a series of Preferred Stock to an amount which exceeds the lower of (i) the

Conversion Price of such series of Preferred Stock in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Conversion Price of such series of Preferred Stock that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Conversion Price of such series of Preferred Stock pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Conversion Price of such series of Preferred Stock then in effect, or because such Option or Convertible Security was issued before the Series C Original Issue Date), are revised after the Series C Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (I) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Subsection 4.4.4 the Conversion Price of such series of Preferred Stock shall be readjusted to such Conversion Price as would have been obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Conversion Price of a Series of Preferred Stock provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Conversion Price of a series of Preferred Stock that would result under the terms of this Subsection 4.4.3 at the time of such issuance or

amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Conversion Price of such series of Preferred Stock that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series C Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the Series C Conversion Price, Series B Conversion Price or Series A Conversion Price in effect immediately prior to such issue, then the applicable Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP_2" shall mean the Conversion Price of such series of Preferred Stock in effect immediately after such issue of Additional Shares of Common Stock

(b) "CP_1" shall mean the Conversion Price of such series of Preferred Stock in effect immediately prior to such issue of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue other than, in the case of Convertible Securities, such number of shares of Common Stock issuable upon conversion of Convertible Securities that will convert into the shares of capital stock to be issued in the transaction for which the calculation described in this Section 4.4.4 is being made);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3 relating to Options and Convertible Securities, shall be determined by dividing:

(i) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Subsection 4.4.4, and such issuance dates occur within a period of no more than ninety (90) days from the first such issuance to the final such issuance, then, upon the final such issuance, the Conversion Price of such series of Preferred Stock shall be readjusted to give effect to all such issuances as if they all occurred on the date of the additional adjustments as a result of any such subsequent issuances within such period.

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series C Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series C Original Issue Date combine the outstanding shares of Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series C Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price of each series of Preferred Stock in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of the applicable series of Preferred Stock then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of each series of Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of each series of Preferred Stock shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made to a series of Preferred Stock if the holders of such series of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series C Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in

other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.4, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not a given series of Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.4, 4.6 or 4.7) then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of such applicable series of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of such series of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of such series of Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Price of each series of Preferred Stock) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock. For the avoidance of doubt, nothing in this Subsection 4.8 shall be construed as preventing the holders of Preferred Stock from seeking any appraisal rights to which they are otherwise entitled under the DGCL in connection with a merger triggering an adjustment hereunder, nor shall this Subsection 4.8 be deemed conclusive evidence of the fair value of the shares of Preferred Stock in any such appraisal proceeding.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price of a series of Preferred Stock pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock that has been subject to an adjustment or readjustment, a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Conversion Price of each series of Preferred Stock then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of each series of Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of any Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) immediately prior to the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $45,000,000 of net proceeds to the Company (after deduction of underwriters' commissions and expenses) (a "***Qualified IPO***"), or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Majority (the time immediately prior to such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "***Mandatory Conversion Time***"), then (A) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rates as calculated pursuant to Subsection 4.1.1 and (B) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock being converted pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred

Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Subsection 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Subsection 5.2. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock being converted, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b) pay cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

6. Redemption.

6.1 General. Unless prohibited by Delaware law governing distributions to stockholders, all outstanding shares of Preferred Stock shall be redeemed by the Corporation at a price equal to the applicable Original Issue Price per share, plus any dividends declared but unpaid thereon (the "***Redemption Price***"), in three (3) annual installments commencing not more than sixty (60) days after receipt by the Corporation at any time on or after five (5) years from the Series C Original Issue Date, from the Requisite Majority, of written notice requesting redemption of all shares of Preferred Stock (the "***Redemption Request***"). Upon receipt of a Redemption Request, the Corporation shall apply all of its assets to any such redemption, and to no other corporate purpose, except to the extent prohibited by Delaware law governing distributions to stockholders. The date of each such installment shall be referred to as a "***Redemption Date***." On each Redemption Date, the Corporation shall redeem, on a *pro rata* basis in accordance with the number of shares of Preferred Stock owned by each holder, that number of outstanding shares of Preferred Stock determined by dividing (i) the total number of shares of Preferred Stock outstanding immediately prior to such Redemption Date by (ii) the number of remaining Redemption Dates (including the Redemption Date to which such calculation applies. If on any Redemption Date Delaware law governing distributions to stockholders prevents the Corporation from redeeming all shares of Preferred Stock to be redeemed, the Corporation shall ratably redeem the maximum number of shares that it may redeem consistent with such law, and shall redeem the remaining shares as soon as it may lawfully do so under such law.

6.2 Redemption Notice. The Corporation shall send written notice of the mandatory redemption (the "***Redemption Notice***") to each holder of record of Preferred Stock not less than forty (40) days prior to each Redemption Date. Each Redemption Notice shall state:

(a) the number and series of shares of Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice;

(b) the Redemption Date and the Redemption Price;

(c) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(d) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

6.3 Surrender of Certificates; Payment. On or before the applicable Redemption Date, each holder of shares of Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4 shall, if a holder of shares in certificated form, surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Preferred Stock represented by a certificate are redeemed, a new certificate, instrument, or book entry representing the unredeemed shares of Preferred Stock shall promptly be issued to such holder.

6.4 Rights Subsequent to Redemption. If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the Redemption Price payable upon redemption of the shares of Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that any certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of any such certificate or certificates therefor.

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

8. Waiver. Any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Majority; provided however that this Section 8 shall not apply with respect to any provision hereof expressly requiring approval in excess of the holders of a majority of the outstanding Preferred Stock or of a class of Preferred Stock voting separately from the other classes of Preferred Stock, including without limitation the provisions of Section 3.4.1, 3.4.3 and 4.4.2.

9. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by the Certificate of Incorporation or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by the Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law.

Any amendment, repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "***Excluded Opportunity***" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "***Covered Persons***"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

THIRTEENTH:

To the extent certain sections of the corporations code of any state set forth minimum requirements for the Company's retained earnings and/or assets that would otherwise be applicable to distributions made by the Company in connection with the repurchase of shares of Common Stock issued to or held by employees, consultants, advisors, officers, directors or other service providers of the Company or any of the Company's subsidiaries at a price not greater than the amount paid by such person for such shares upon termination of their employment or services pursuant to agreements providing for the right of said repurchase or upon exercise of a right of first refusal, where such agreements were authorized by the Board, such distributions may be made without regard to any "preferential dividends arrears amount," "preferential rights amount," or similar concept

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 19th day of December, 2019.

PLIANT THERAPEUTICS, INC.

By: /s/ Bernard Coulie
Name: Bernard Coulie, M.D., Ph.D.
Title: President and Chief Executive Officer

CERTIFICATE OF AMENDMENT
TO THE
AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
PLIANT THERAPEUTICS, INC.

(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Pliant Therapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "***General Corporation Law***"),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Pliant Therapeutics, Inc. (the "***Corporation***"), and that the Corporation was originally incorporated pursuant to the General Corporation Law on June 8, 2015 under the name Pliant Therapeutics, Inc.

2. That the Board of Directors duly adopted resolutions proposing to amend the Amended and Restated Certificate of Incorporation of the Corporation, declaring said amendment to be advisable and in the best interests of the Corporation and its stockholders, and authorizing the appropriate officers of the Corporation to solicit the consent of the stockholders therefor, which resolutions setting forth the proposed amendment are substantially as follows:

   RESOLVED: The first paragraph of Article Fourth of the Amended and Restated Certificate of Incorporation of the Corporation be amended and restated in its entirety as follows:

   "**FOURTH**: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 200,000,000 shares of Common Stock, $0.0001 par value per share ("***Common Stock***"), and (ii) 160,501,221 shares of Preferred Stock, $0.0001 par value per share ("***Preferred Stock***")."

   RESOLVED: The first paragraph of Article Fourth, Part B of the Amended and Restated Certificate of Incorporation of the Corporation be amended and restated in its entirety as follows:

   "56,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated "***Series A Preferred Stock***," 49,501,221 shares of the authorized Preferred Stock of the Corporation are hereby designated "***Series B Preferred Stock***" and 55,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated "***Series C Preferred Stock***". The Series C Preferred Stock and the Series B Preferred Stock are collectively referred to herein as the "***Senior Preferred Stock***". The Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall have the rights, preferences, powers, privileges and restrictions, qualifications and limitations set forth herein. Unless otherwise indicated, references to "sections" or "subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth."

3. That the foregoing amendment was approved by the holders of the requisite number of shares of the Corporation in accordance with Section 228 of the General Corporation Law.

4. That this Certificate of Amendment to the Amended and Restated Certificate of Incorporation has been duly adopted in accordance with Section 242 of the General Corporation Law.

(signature page follows)

IN WITNESS WHEREOF, this Certificate of Amendment to the Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on February 27, 2020.

PLIANT THERAPEUTICS, INC.

/s/ Bernard Coulie, M.D., Ph.D.
Bernard Coulie, M.D., Ph.D.
President and Chief Executive Officer

CERTIFICATE OF AMENDMENT
TO THE
AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
PLIANT THERAPEUTICS, INC.

(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Pliant Therapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "***General Corporation Law***"),

DOES HEREBY CERTIFY:

1. The first paragraph of Article Fourth of the Amended and Restated Certificate of Incorporation of the Corporation is hereby amended in its entirety to read as follows:

> "**FOURTH**: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 210,000,000 shares of Common Stock, $0.0001 par value per share ("***Common Stock***"), and (ii) 160,501,221 shares of Preferred Stock, $0.0001 par value per share ("***Preferred Stock***")."

2. The foregoing amendment was duly approved by the Board of Directors of the Corporation and adopted by the holders of the requisite number of shares of capital stock of the Corporation in accordance with Section 242 of the General Corporation Law, with the stockholders acting by written consent in lieu of a meeting pursuant to Section 228 of the General Corporation Law.

IN WITNESS WHEREOF, this Certificate of Amendment to the Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on March 31, 2020.

PLIANT THERAPEUTICS, INC.

/s/ Bernard Coulie, M.D., Ph.D.
Bernard Coulie, M.D., Ph.D.
President and Chief Executive Officer

PLIANT THERAPEUTICS, INC.

2015 EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD OF DIRECTORS: August 19, 2015
APPROVED BY THE STOCKHOLDERS: August 19, 2015
TERMINATION DATE: August 18, 2025

1. GENERAL.

(a) Eligible Stock Award Recipients. Employees, Directors and Consultants are eligible to receive Stock Awards.

(b) Available Stock Awards. The Plan provides for the grant of the following types of Stock Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Stock Appreciation Rights, (iv) Restricted Stock Awards, (v) Restricted Stock Unit Awards and (vi) Other Stock Awards.

(c) Purpose. The Plan, through the granting of Stock Awards, is intended to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and provide a means by which the eligible recipients may benefit from increases in value of the Common Stock.

2. ADMINISTRATION.

(a) Administration by Board. The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) Powers of Board. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine (A) who will be granted Stock Awards; (B) when and how each Stock Award will be granted; (C) what type of Stock Award will be granted; (D) the provisions of each Stock Award (which need not be identical), including when a person will be permitted to exercise or otherwise receive cash or Common Stock under the Stock Award; (E) the number of shares of Common Stock subject to a Stock Award; and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Stock Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Stock Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement, in a manner and to the extent it will deem necessary or expedient to make the Plan or Stock Award fully effective.

(iii) To settle all controversies regarding the Plan and Stock Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which a Stock Award may be exercised or vest (or at which cash or shares of Common Stock may be issued).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or a Stock Award Agreement, suspension or termination of the Plan will not impair a Participant's rights under his or her then-outstanding Stock Award without his or her written consent except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, by adopting amendments relating to Incentive Stock Options and certain nonqualified deferred compensation under Section 409A of the Code and/or to make the Plan or Stock Awards granted under the Plan compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. However, if required by applicable law, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Stock Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Stock Awards available for issuance under the Plan. Except as provided in the Plan (including subsection (viii) below) or a Stock Award Agreement, no amendment of the Plan will impair a Participant's rights under an outstanding Stock Award unless (1) the Company requests the consent of the affected Participant, and (2) such Participant consents in writing.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of Section 422 of the Code regarding Incentive Stock Options.

(viii) To approve forms of Stock Award Agreements for use under the Plan and to amend the terms of any one or more Stock Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Stock Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided however,* that a Participant's rights under any Stock Award will not be impaired by any such amendment unless (A) the Company requests the consent of the affected Participant, and (B) such Participant consents in writing. Notwithstanding the foregoing, (1) a Participant's rights will not be deemed to have been impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights, and (2) subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Stock Awards without the affected Participant's consent (A) to maintain the qualified status of the Stock Award as an Incentive Stock Option under Section 422 of the Code; (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (C) to clarify the manner of exemption from, or to bring the Stock Award into compliance with, Section 409A of the Code; or (D) to comply with other applicable laws.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Stock Awards.

(x) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Stock Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

(xi) To effect, with the consent of any adversely affected Participant, (A) the reduction of the exercise, purchase or strike price of any outstanding Stock Award; (B) the cancellation of any outstanding Stock Award and the grant in substitution therefor of a new (1) Option or SAR, (2) Restricted Stock Award, (3) Restricted Stock Unit Award, (4) Other Stock Award, (5) cash and/or (6) other valuable consideration determined by the Board, in its sole discretion, with any such substituted award (x) covering the same or a different number of shares of Common Stock as the cancelled Stock Award and (y) granted under the Plan or another equity or compensatory plan of the Company; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

(c) Delegation to Committee. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time, abolish the subcommittee and/or revest in the Committee any powers delegated to the subcommittee. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(d) Delegation to an Officer. The Board may delegate to one (1) or more Officers the authority to do one or both of the following: (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Stock Awards, and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; provided, however, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided in the resolutions approving the delegation authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value pursuant to Section 13(t) below.

(e) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve.

(i) Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards from and after the Effective Date will not exceed 36,638,806 shares (the ***"Share Reserve"***).

(ii) For clarity, the Share Reserve in this Section 3(a) is a limitation on the number of shares of Common Stock that may be issued pursuant to the Plan. Accordingly, this Section 3(a) does not limit the granting of Stock Awards except as provided in Section 7(a).

(b) Reversion of Shares to the Share Reserve. If a Stock Award or any portion thereof (i) expires or otherwise terminates without all of the shares covered by such Stock Award having been issued or (ii) is settled in cash (*i.e.*, the Participant receives cash rather than stock), such expiration, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that may be available for issuance under the Plan. If any shares of Common Stock issued pursuant to a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited or repurchased will revert to and again become available for issuance under the Plan. Any shares reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award or as consideration for the exercise or purchase price of a Stock Award will again become available for issuance under the Plan.

(c) Incentive Stock Option Limit. Subject to the Share Reserve and Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options will be a number of shares of Common Stock equal to three (3) multiplied by the Share Reserve.

(d) Source of Shares. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

4. ELIGIBILITY.

(a) Eligibility for Specific Stock Awards. Incentive Stock Options may be granted only to employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; *provided*, *however*, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any "parent" of the Company, as such term is defined in Rule 405, unless (i) the stock underlying such Stock Awards is treated as "service recipient stock" under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction), or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or alternatively comply with the distribution requirements of Section 409A of the Code.

(b) Ten Percent Stockholders. A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least one hundred ten percent (110%) of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

(c) Consultants. A Consultant will not be eligible for the grant of a Stock Award if, at the time of grant, either the offer or sale of the Company's securities to such Consultant is not exempt under Rule 701 because of the nature of the services that the Consultant is providing to the Company, because the Consultant is not a natural person, or because of any other provision of Rule 701, unless the Company determines that such grant need not comply with the requirements of Rule 701 and will satisfy another exemption under the Securities Act as well as comply with the securities laws of all other relevant jurisdictions.

5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; *provided, however*, that each Stock Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Stock Award Agreement or otherwise) the substance of each of the following provisions:

(a) Term. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten (10) years from the date of its grant or such shorter period specified in the Stock Award Agreement.

(b) Exercise Price. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Stock Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Stock Award if such Stock Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

(c) Purchase Price for Options. The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

(i) by cash, check, bank draft or money order payable to the Company;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) if an Option is a Nonstatutory Stock Option, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; provided, however, that the Company will accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the "net exercise," (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations;

(v) according to a deferred payment or similar arrangement with the Optionholder; *provided*, *however*, that interest will compound at least annually and will be charged at the minimum rate of interest necessary to avoid (A) the imputation of interest income to the Company and compensation income to the Optionholder under any applicable provisions of the Code, and (B) the classification of the Option as a liability for financial accounting purposes; or

(vi) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Stock Award Agreement.

(d) Exercise and Payment of a SAR. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Award Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR, and with respect to which the Participant is exercising the SAR on such date, over (B) the strike price. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Stock Award Agreement evidencing such SAR.

(e) Transferability of Options and SARs. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) Restrictions on Transfer. An Option or SAR will not be transferable except by will or by the laws of descent and distribution (and pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration.

(ii) Domestic Relations Orders. Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulation 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(iii) Beneficiary Designation. Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, upon the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other

consideration resulting from such exercise. In the absence of such a designation, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) Vesting Generally. The total number of shares of Common Stock subject to an Option or SAR may vest and therefore become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of performance goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary. The provisions of this Section 5(f) are subject to any Option or SAR provisions governing the minimum number of shares of Common Stock as to which an Option or SAR may be exercised.

(g) Termination of Continuous Service. Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Stock Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the applicable Stock Award Agreement, which period will not be less than thirty (30) days if necessary to comply with applicable laws unless such termination is for Cause) and (ii) the expiration of the term of the Option or SAR as set forth in the Stock Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(h) Extension of Termination Date. Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of three (3) months (that need not be consecutive) after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Stock Award Agreement. In addition, unless otherwise provided in a Participant's Stock Award Agreement, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of time (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Stock Award Agreement.

(i) Disability of Participant. Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the

date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination of Continuous Service (or such longer or shorter period specified in the Stock Award Agreement, which period will not be less than six (6) months if necessary to comply with applicable laws), and (ii) the expiration of the term of the Option or SAR as set forth in the Stock Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) Death of Participant. Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the Stock Award Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date eighteen (18) months following the date of death (or such longer or shorter period specified in the Stock Award Agreement, which period will not be less than six (6) months if necessary to comply with applicable laws), and (ii) the expiration of the term of such Option or SAR as set forth in the Stock Award Agreement. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR (as applicable) will terminate.

(k) Termination for Cause. Except as explicitly provided otherwise in a Participant's Stock Award Agreement or other individual written agreement between the Company or any Affiliate and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate immediately upon such Participant's termination of Continuous Service, and the Participant will be prohibited from exercising his or her Option or SAR from and after the time of such termination of Continuous Service.

(l) Non-Exempt Employees. If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least six (6) months following the date of grant of the Option or SAR (although the Stock Award may vest prior to such date). Consistent with the provisions of the Worker Economic Opportunity Act, (i) if such non-exempt Employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's retirement (as such term may be defined in the Participant's Stock Award Agreement, in another agreement between the Participant and the Company, or, if no such definition, in accordance with the Company's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than six (6) months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the Worker Economic Opportunity Act to ensure that any income derived by a non-exempt employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from the employee's regular rate of pay, the provisions of this Section 5(l) will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

(m) Early Exercise of Options. An Option may, but need not, include a provision whereby the Optionholder may elect at any time before the Optionholder's Continuous Service terminates to exercise the Option as to any part or all of the shares of Common Stock subject to the Option prior to the full vesting of the Option. Subject to the "Repurchase Limitation" in Section 8(m), any unvested shares of Common Stock so purchased may be subject to a repurchase right in favor of the Company or to any other restriction the Board determines to be appropriate. Provided that the "Repurchase Limitation" in Section 8(m) is not violated, the Company will not be required to exercise its repurchase right until at least six (6) months (or such longer or shorter period of time required to avoid classification of the Option as a liability for financial accounting purposes) have elapsed following exercise of the Option unless the Board otherwise specifically provides in the Option Agreement.

(n) Right of Repurchase. Subject to the "Repurchase Limitation" in Section 8(m), the Option or SAR may include a provision whereby the Company may elect to repurchase all or any part of the vested shares of Common Stock acquired by the Participant pursuant to the exercise of the Option or SAR.

(o) Right of First Refusal. The Option or SAR may include a provision whereby the Company may elect to exercise a right of first refusal following receipt of notice from the Participant of the intent to transfer all or any part of the shares of Common Stock received upon the exercise of the Option or SAR. Such right of first refusal will be subject to the "Repurchase Limitation" in Section 8(m). Except as expressly provided in this Section 5(o) or in the Stock Award Agreement, such right of first refusal will otherwise comply with any applicable provisions of the bylaws of the Company.

6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS.

(a) Restricted Stock Awards. Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse; or (ii) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. Subject to the "Repurchase Limitation" in Section 8(m), shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

(iii) Termination of Participant's Continuous Service. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right, any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

(iv) Transferability. Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(v) Dividends. A Restricted Stock Award Agreement may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares subject to the Restricted Stock Award to which they relate.

(b) Restricted Stock Unit Awards. Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) Payment. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

(iv) Additional Restrictions. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) Dividend Equivalents. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and contained in the Restricted Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Agreement to which they relate.

(vi) Termination of Participant's Continuous Service. Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(vii) Compliance with Section 409A of the Code. Notwithstanding anything to the contrary set forth herein, any Restricted Stock Unit Award granted under the Plan that is not exempt from the requirements of Section 409A of the Code shall contain such provisions so that such Restricted Stock Unit Award will comply with the requirements of Section 409A of the Code. Such restrictions, if any, shall be determined by the Board and contained in the Restricted Stock Unit Award Agreement evidencing such Restricted Stock Unit Award. For example, such restrictions may include, without limitation, a requirement that any Common Stock that is to be issued in a year following the year in which the Restricted Stock Unit Award vests must be issued in accordance with a fixed pre-determined schedule.

(c) Other Stock Awards. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (e.g., options or stock rights with an exercise price or strike price less than one hundred percent (100%) of the Fair Market Value of the Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

7. COVENANTS OF THE COMPANY.

(a) Availability of Shares. The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

(b) Securities Law Compliance. The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided*, *however*, that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of a Stock Award or the subsequent issuance of cash or Common Stock pursuant to the Stock Award if such grant or issuance would be in violation of any applicable securities law.

(c) No Obligation to Notify or Minimize Taxes. The Company will have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of a Stock Award or a possible period in which the Stock Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of a Stock Award to the holder of such Stock Award.

8. MISCELLANEOUS.

(a) Use of Proceeds from Sales of Common Stock. Proceeds from the sale of shares of Common Stock pursuant to Stock Awards will constitute general funds of the Company.

(b) Corporate Action Constituting Grant of Stock Awards. Corporate action constituting a grant by the Company of a Stock Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Stock Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Stock Award Agreement as a result of a clerical error in the papering of the Stock Award Agreement, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Stock Award Agreement.

(c) Stockholder Rights. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to a Stock Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Stock Award pursuant to its terms, and (ii) the issuance of the Common Stock subject to the Stock Award has been entered into the books and records of the Company.

(d) No Employment or Other Service Rights. Nothing in the Plan, any Stock Award Agreement or any other instrument executed thereunder or in connection with any Stock Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Stock Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(e) Change in Time Commitment. In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee) after the date of grant of any Stock Award to the Participant, the Board has the right in its sole discretion to (x) make a corresponding reduction in the number of shares subject to any portion of such Stock Award that is scheduled to vest or become payable after the date of such change in time commitment, and (y) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Stock Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Stock Award that is so reduced or extended.

(f) Incentive Stock Option Limitations. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds one hundred thousand dollars ($100,000) (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(g) Investment Assurances. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or

to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (A) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (B) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(h) Withholding Obligations. Unless prohibited by the terms of a Stock Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to a Stock Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Stock Award; *provided*, *however*, that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law (or such lesser amount as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from a Stock Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Stock Award Agreement.

(i) Electronic Delivery. Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

(j) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Stock Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Stock Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(k) Compliance with Section 409A of the Code. To the extent that the Board determines that any Stock Award granted hereunder is subject to Section 409A of the Code, the Stock Award Agreement evidencing such Stock Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, the Plan and Stock Award Agreements shall be interpreted in accordance with Section 409A of the Code.

(l) Compliance with Exemption Provided by Rule 12h-1(f). If at the end of the Company's most recently completed fiscal year: (i) the aggregate of the number of persons who hold outstanding compensatory employee stock options to purchase shares of Common Stock granted pursuant to the Plan or otherwise (such persons, "***Holders of Options***") equals or exceeds five hundred (500), and (ii) the Company's assets exceed $10 million, then the following restrictions will apply during any period during which the Company does not have a class of its securities registered under Section 12 of the Exchange Act and is not required to file reports under Section 15(d) of the Exchange Act: (A) the Options and, prior to exercise, the shares of Common Stock to be issued on exercise of the Options may not be transferred until the Company is no longer relying on the exemption provided by Rule 12h-1(f) promulgated under the Exchange Act ("***Rule 12h-1(f)***"), except: (1) as permitted by Rule 701(c) promulgated under the Securities Act, (2) to a guardian upon the disability of the Holder of Options, or (3) to an executor upon the death of the Holder of Options (collectively, the "***Permitted Transferees***"); provided, however, the following transfers are permitted: (i) transfers by Holders of Options to the Company, and (ii) transfers in connection with a change of control or other acquisition involving the Company, if following such transaction, the Options no longer remain outstanding and the Company is no longer relying on the exemption provided by Rule 12h-1(f); provided further, that any Permitted Transferees may not further transfer the Options; (B) except as otherwise provided in (A) above, the Options and shares of Common Stock issuable on exercise of the Options are restricted as to any pledge, hypothecation, or other transfer, including any short position, any "put equivalent position" as defined by Rule 16a-1(h) promulgated under the Exchange Act, or any "call equivalent position" as defined by Rule 16a-1(b) promulgated under the Exchange Act by Holders of Options prior to exercise of an Option until the Company is no longer relying on the exemption provided by Rule 12h-1(f); and (C) at any time that the Company is relying on the exemption provided by Rule 12h-1(f), the Company will deliver to Holders of Options (whether by physical or electronic delivery or written notice of the availability of the information on an internet site) the information required by Rule 701(e)(3), (4), and (5) promulgated under the Securities Act every six (6) months, including financial statements that are not more than one hundred eighty (180) days old; provided, however, that the Company may condition the delivery of such information upon the Holder of Options' agreement to maintain its confidentiality.

(m) Repurchase Limitation. The terms of any repurchase right will be specified in the Stock Award Agreement. The repurchase price for vested shares of Common Stock will be the Fair Market Value of the shares of Common Stock on the date of repurchase. The repurchase price for unvested shares of Common Stock will be the lower of (i) the Fair Market Value of the shares of Common Stock on the date of repurchase or (ii) their original purchase price. However, the Company will not exercise its repurchase right until at least six (6) months (or such longer or shorter period of time necessary to avoid classification of the Stock Award as a liability for financial accounting purposes) have elapsed following delivery of shares of Common Stock subject to the Stock Award, unless otherwise specifically provided by the Board.

9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c), and (iii) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) Dissolution or Liquidation. Except as otherwise provided in the Stock Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service, *provided*, *however,* that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transaction. The following provisions will apply to Stock Awards in the event of a Corporate Transaction unless otherwise provided in the instrument evidencing the Stock Award or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of a Stock Award. In the event of a Corporate Transaction, then, notwithstanding any other provision of the Plan, the Board may take one or more of the following actions with respect to Stock Awards, contingent upon the closing or completion of the Corporate Transaction:

(i) arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the Stock Award or to substitute a similar stock award for the Stock Award (including, but not limited to, an award to acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction);

(ii) arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to the Stock Award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

(iii) accelerate the vesting, in whole or in part, of the Stock Award (and, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Corporate Transaction as the Board determines (or, if the Board does not determine such a date, to the date that is five (5) days prior to the effective date of the Corporate Transaction), with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction; provided, however, that the Board may require Participants to complete and deliver to the Company a notice of exercise before the effective date of a Corporate Transaction, which exercise is contingent upon the effectiveness of such Corporate Transaction;

(iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to the Stock Award;

(v) cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for such cash consideration, if any, as the Board, in its sole discretion, may consider appropriate; and

(vi) make a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction, over (B) any exercise price payable by such holder in connection with such exercise. For clarity, this payment may be zero ($0) if the value of the property is equal to or less than the exercise price. Payments under this provision may be delayed to the same extent that payment of consideration to the holders of the Company's Common Stock in connection with the Corporate Transaction is delayed as a result of escrows, earn outs, holdbacks or any other contingencies.

The Board need not take the same action or actions with respect to all Stock Awards or portions thereof or with respect to all Participants. The Board may take different actions with respect to the vested and unvested portions of a Stock Award.

(d) Change in Control. A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration will occur.

10. PLAN TERM; EARLIER TERMINATION OR SUSPENSION OF THE PLAN.

(a) Plan Term. The Board may suspend or terminate the Plan at any time. Unless terminated sooner by the Board, the Plan will automatically terminate on the day before the tenth (10th) anniversary of the earlier of (i) the date the Plan is adopted by the Board, or (ii) the date the Plan is approved by the stockholders of the Company. No Stock Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) No Impairment of Rights. Suspension or termination of the Plan will not impair rights and obligations under any Stock Award granted while the Plan is in effect except with the written consent of the affected Participant or as otherwise permitted in the Plan.

11. EFFECTIVE DATE OF PLAN.

This Plan will become effective on the Effective Date.

12. CHOICE OF LAW.

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

13. DEFINITIONS. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "***Affiliate***" means, at the time of determination, any "parent" or "majority-owned subsidiary" of the Company, as such terms are defined in Rule 405. The Board will have the authority to determine the time or times at which "parent" or "majority-owned subsidiary" status is determined within the foregoing definition.

(b) "***Board***" means the Board of Directors of the Company.

(c) "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of

shares, change in corporate structure, or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(d) "***Cause***" will have the meaning ascribed to such term in any written agreement between the Participant and the Company defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) such Participant's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) such Participant's attempted commission of, or participation in, a fraud or act of dishonesty against the Company; (iii) such Participant's intentional, material violation of any contract or agreement between the Participant and the Company or of any statutory duty owed to the Company; (iv) such Participant's unauthorized use or disclosure of the Company's confidential information or trade secrets; or (v) such Participant's gross misconduct. The determination that a termination of the Participant's Continuous Service is either for Cause or without Cause will be made by the Company, in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Stock Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(e) "***Change in Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (C) solely because the level of Ownership held by any Exchange Act Person (the "***Subject Person***") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company will otherwise occur, except for a liquidation into a parent corporation;

(iv) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(v) individuals who, on the date the Plan is adopted by the Board, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board; *provided, however,* that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of this Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Stock Awards subject to such agreement; *provided, however,* that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

(f) "***Code***" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(g) "***Committee***" means a committee of one or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(h) "***Common Stock***" means the common stock of the Company.

(i) "***Company***" means Pliant Therapeutics, Inc., a Delaware corporation.

(j) "***Consultant***" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan.

(k) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Director or Consultant or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service; *provided, however*, that if the Entity for which a

Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(l) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(m) "***Director***" means a member of the Board.

(n) "***Disability***" means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than twelve (12) months as provided in Sections 22(e)(3) and 409A(a)(2)(c)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(o) "***Effective Date***" means the effective date of this Plan, which is the earlier of (i) the date that this Plan is first approved by the Company's stockholders, and (ii) the date this Plan is adopted by the Board.

(p) "***Employee***" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(q) "***Entity***" means a corporation, partnership, limited liability company or other entity.

(r) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(s) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities.

(t) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined by the Board in compliance with Section 409A of the Code or, in the case of an Incentive Stock Option, in compliance with Section 422 of the Code.

(u) "***Incentive Stock Option***" means an option granted pursuant to Section 5 of the Plan that is intended to be, and that qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(v) "***Nonstatutory Stock Option***" means any option granted pursuant to Section 5 of the Plan that does not qualify as an Incentive Stock Option.

(w) "***Officer***" means any person designated by the Company as an officer.

(x) "***Option***" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(y) "***Option Agreement***" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(z) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(aa) "***Other Stock Award***" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(c).

(bb) "***Other Stock Award Agreement***" means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

(cc) "***Own***," "***Owned***," "***Owner***," "***Ownership***" A person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(dd) "***Participant***" means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(ee) "***Plan***" means this 2015 Equity Incentive Plan.

(ff) "***Restricted Stock Award***" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

(gg) "***Restricted Stock Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(hh) "***Restricted Stock Unit Award***" means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(b).

(ii) "***Restricted Stock Unit Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

(jj) "***Rule 405***" means Rule 405 promulgated under the Securities Act.

(kk) "***Rule 701***" means Rule 701 promulgated under the Securities Act.

(ll) "***Securities Act***" means the Securities Act of 1933, as amended.

(mm) "***Stock Appreciation Right***" or "***SAR***" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

(nn) "***Stock Appreciation Right Agreement***" means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

(oo) "***Stock Award***" means any right to receive Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right or any Other Stock Award.

(pp) "***Stock Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

(qq) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%) .

(rr) "***Ten Percent Stockholder***" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Affiliate.

PLIANT THERAPEUTICS, INC.

STOCK OPTION GRANT NOTICE
(2015 EQUITY INCENTIVE PLAN)

PLIANT THERAPEUTICS, INC. (the "***Company***"), pursuant to its 2015 Equity Incentive Plan (the "***Plan***"), hereby grants to Optionholder an Option to purchase the number of shares of the Company's Common Stock (the "***Shares***") set forth below. This Option is subject to all of the terms and conditions as set forth in this notice, in the Option Agreement, the Plan and the Notice of Exercise, all of which are attached hereto and incorporated herein in their entirety. Capitalized terms not explicitly defined herein but defined in the Plan or the Option Agreement will have the same definitions as in the Plan or the Option Agreement. If there is any conflict between the terms in this notice and the Plan, the terms of the Plan will control.

Optionholder:	_____
Date of Grant:	_____
Vesting Commencement Date:	_____
Number of Shares Subject to Option:	_____
Exercise Price (Per Share):	_____
Total Exercise Price:	_____
Expiration Date:	_____

Type of Grant: ☐ Incentive Stock Option[1] ☐ Nonstatutory Stock Option

Exercise Schedule: ☐ Same as Vesting Schedule ☐ Early Exercise Permitted

Vesting Schedule: [, while the Optionholder is providing Continuous Service (as defined in the Plan) to the Company through each such vesting date.]

Payment: By one or a combination of the following items (described in the Option Agreement):

☐ By cash, check, bank draft or money order payable to the Company
☐ Pursuant to a Regulation T Program if the shares are publicly traded
☐ By delivery of already-owned shares if the shares are publicly traded
☐ By deferred payment
☐ If and only to the extent this Option is a Nonstatutory Stock Option, and subject to the Company's consent at the time of exercise, by a "net exercise" arrangement

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1 If this is an Incentive Stock Option, it (plus other outstanding Incentive Stock Options) cannot be first *exercisable* for more than $100,000 in value (measured by exercise price) in any calendar year. Any excess over $100,000 is a Nonstatutory Stock Option.

Additional Terms/Acknowledgements: Optionholder acknowledges receipt of, and understands and agrees to, this Stock Option Grant Notice, the Option Agreement and the Plan. Optionholder acknowledges and agrees that this Stock Option Grant Notice and the Option Agreement may not be modified, amended or revised except as provided in the Plan. Optionholder further acknowledges that as of the Date of Grant, this Stock Option Grant Notice, the Option Agreement, and the Plan set forth the entire understanding between Optionholder and the Company regarding this Option award and supersede all prior oral and written agreements, promises and/or representations on that subject with the exception of (i) Options previously granted and delivered to Optionholder, and (ii) the following agreements only. By accepting this Option, Optionholder consents to receive such documents by electronic delivery and to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

OTHER AGREEMENTS: _____

_____

_____

PLIANT THERAPEUTICS, INC.

By: _____
Signature

Title: _____

Date: _____

OPTIONHOLDER:

_____
Signature

Date: _____

ATTACHMENTS: Option Agreement, 2015 Equity Incentive Plan and Notice of Exercise

ATTACHMENT I

OPTION AGREEMENT

PLIANT THERAPEUTICS, INC.

2015 EQUITY INCENTIVE PLAN

OPTION AGREEMENT
(INCENTIVE STOCK OPTION OR NONSTATUTORY STOCK OPTION)

Pursuant to your Stock Option Grant Notice ("***Grant Notice***") and this Option Agreement, **PLIANT THERAPEUTICS, INC.** (the "***Company***") has granted you an option under its 2015 Equity Incentive Plan (the "***Plan***") to purchase the number of shares of the Company's Common Stock indicated in your Grant Notice at the exercise price indicated in your Grant Notice. The option is granted to you effective as of the date of grant set forth in the Grant Notice (the "***Date of Grant***"). If there is any conflict between the terms in this Option Agreement and the Plan, the terms of the Plan will control. Capitalized terms not explicitly defined in this Option Agreement or in the Grant Notice but defined in the Plan will have the same definitions as in the Plan.

The details of your option, in addition to those set forth in the Grant Notice and the Plan, are as follows:

1. VESTING. Your option will vest as provided in your Grant Notice. Vesting will cease upon the termination of your Continuous Service.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share in your Grant Notice will be adjusted for Capitalization Adjustments.

3. EXERCISE RESTRICTION FOR NON-EXEMPT EMPLOYEES. If you are an Employee eligible for overtime compensation under the Fair Labor Standards Act of 1938, as amended (that is, a "***Non-Exempt Employee***"), and except as otherwise provided in the Plan, you may not exercise your option until you have completed at least six (6) months of Continuous Service measured from the Date of Grant, even if you have already been an employee for more than six (6) months. Consistent with the provisions of the Worker Economic Opportunity Act, you may exercise your option as to any vested portion prior to such six (6) month anniversary in the case of (i) your death or disability, (ii) a Corporate Transaction in which your option is not assumed, continued or substituted, (iii) a Change in Control or (iv) your termination of Continuous Service on your "retirement" (as defined in the Company's benefit plans).

4. EXERCISE PRIOR TO VESTING ("EARLY EXERCISE"). If permitted in your Grant Notice (*i.e.*, the "Exercise Schedule" indicates "Early Exercise Permitted") and subject to the provisions of your option, you may elect at any time that is both (i) during the period of your Continuous Service and (ii) during the term of your option, to exercise all or part of your option, including the unvested portion of your option; *provided, however,* that:

(a) a partial exercise of your option will be deemed to cover first vested shares of Common Stock and then the earliest vesting installment of unvested shares of Common Stock;

(b) any shares of Common Stock so purchased from installments that have not vested as of the date of exercise will be subject to the purchase option in favor of the Company as described in the Company's form of Early Exercise Stock Purchase Agreement;

(c) you will enter into the Company's form of Early Exercise Stock Purchase Agreement with a vesting schedule that will result in the same vesting as if no early exercise had occurred; and

(d) if your option is an Incentive Stock Option, then, to the extent that the aggregate Fair Market Value (determined at the Date of Grant) of the shares of Common Stock with respect to which your option plus all other Incentive Stock Options you hold are exercisable for the first time by you during any calendar year (under all plans of the Company and its Affiliates) exceeds one hundred thousand dollars ($100,000), your option(s) or portions thereof that exceed such limit (according to the order in which they were granted) will be treated as Nonstatutory Stock Options.

5. METHOD OF PAYMENT. You must pay the full amount of the exercise price for the shares you wish to exercise. You may pay the exercise price in cash or by check, bank draft or money order payable to the Company or in any other manner ***permitted by your Grant Notice,*** which may include one or more of the following:

(a) Provided that at the time of exercise the Common Stock is publicly traded, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. This manner of payment is also known as a "broker-assisted exercise", "same day sale", or "sell to cover".

(b) Provided that at the time of exercise the Common Stock is publicly traded, by delivery to the Company (either by actual delivery or attestation) of already-owned shares of Common Stock that are owned free and clear of any liens, claims, encumbrances or security interests, and that are valued at Fair Market Value on the date of exercise. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, will include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. You may not exercise your option by delivery to the Company of Common Stock if doing so would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(c) If this option is a Nonstatutory Stock Option, subject to the consent of the Company at the time of exercise, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise of your option by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price. You must pay any remaining balance of the aggregate exercise price not satisfied by the "net exercise" in cash or other permitted form of payment. Shares of Common Stock will no longer be outstanding under your option and will not be exercisable thereafter if those shares (i) are used to pay the exercise price pursuant to the "net exercise," (ii) are delivered to you as a result of such exercise, and (iii) are withheld to satisfy your tax withholding obligations.

(d) Pursuant to the following deferred payment alternative:

(i) Not less than one hundred percent (100%) of the aggregate exercise price, plus accrued interest, will be due four (4) years from date of exercise or, at the Company's election, upon termination of your Continuous Service.

(ii) Interest will be compounded at least annually and will be charged at the minimum rate of interest necessary to avoid (1) the treatment as interest, under any applicable provisions of the Code, of any amounts other than amounts stated to be interest under the deferred payment arrangement and (2) the classification of your option as a liability for financial accounting purposes.

(iii) In order to elect the deferred payment alternative, you must, as a part of your written notice of exercise, give notice of the election of this payment alternative and, in order to secure the payment of the deferred exercise price to the Company hereunder, if the Company so requests, you must tender to the Company a promissory note and a pledge agreement covering the purchased shares of Common Stock, both in form and substance satisfactory to the Company, or such other or additional documentation as the Company may request.

6. WHOLE SHARES. You may exercise your option only for whole shares of Common Stock.

7. SECURITIES LAW COMPLIANCE. In no event may you exercise your option unless the shares of Common Stock issuable upon exercise are then registered under the Securities Act or, if not registered, the Company has determined that your exercise and the issuance of the shares would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with all other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations (including any restrictions on exercise required for compliance with Treas. Reg. 1.401(k)-1(d)(3), if applicable).

8. TERM. You may not exercise your option before the Date of Grant or after the expiration of the option's term. The term of your option expires, subject to the provisions of Section 5(h) of the Plan, upon the earliest of the following:

(a) immediately upon the termination of your Continuous Service for Cause;

(b) three (3) months after the termination of your Continuous Service for any reason other than Cause, your Disability or your death (except as otherwise provided in Section 8(d) below); *provided, however,* that if during any part of such three (3) month period your option is not exercisable solely because of the condition set forth in the section above relating to "Securities Law Compliance," your option will not expire until the earlier of the Expiration Date or until it has been exercisable for an aggregate period of three (3) months after the termination of your Continuous Service; *provided further,* that if (i) you are a Non-Exempt Employee, (ii) your Continuous Service terminates within six (6) months after the Date of Grant, and (iii) you have vested in a portion of your option at the time of your termination of Continuous Service, your option will not expire until the earlier of (x) the later of (A) the date that is seven (7) months after the Date of Grant, and (B) the date that is three (3) months after the termination of your Continuous Service, and (y) the Expiration Date;

(c) twelve (12) months after the termination of your Continuous Service due to your Disability (except as otherwise provided in Section 8(d)) below;

(d) eighteen (18) months after your death if you die either during your Continuous Service or within three (3) months after your Continuous Service terminates for any reason other than Cause;

(e) the Expiration Date indicated in your Grant Notice; or

(f) the day before the tenth (10th) anniversary of the Date of Grant.

If your option is an Incentive Stock Option, note that to obtain the federal income tax advantages associated with an Incentive Stock Option, the Code requires that at all times beginning on the Date of Grant and ending on the day three (3) months before the date of your option's exercise, you must be an employee of the Company or an Affiliate, except in the event of your death or Disability. The Company has provided for extended exercisability of your option under certain circumstances for your benefit but cannot guarantee that your option will necessarily be treated as an Incentive Stock Option if you continue to provide services to the Company or an Affiliate as a Consultant or Director after your employment terminates or if you otherwise exercise your option more than three (3) months after the date your employment with the Company or an Affiliate terminates.

9. EXERCISE.

(a) You may exercise the vested portion of your option (and the unvested portion of your option if your Grant Notice so permits) during its term by (i) delivering a Notice of Exercise (in a form designated by the Company) or completing such other documents and/or procedures designated by the Company for exercise and (ii) paying the exercise price and any applicable withholding taxes to the Company's Secretary, stock plan administrator, or such other person as the Company may designate, together with such additional documents as the Company may then require.

(b) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (i) the exercise of your option, (ii) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (iii) the disposition of shares of Common Stock acquired upon such exercise.

(c) If your option is an Incentive Stock Option, by exercising your option you agree that you will notify the Company in writing within fifteen (15) days after the date of any disposition of any of the shares of the Common Stock issued upon exercise of your option that occurs within two (2) years after the Date of Grant or within one (1) year after such shares of Common Stock are transferred upon exercise of your option.

(d) By exercising your option you agree that you will not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale with respect to any shares of Common Stock or other securities of the Company held by you, for a period of one hundred eighty (180) days following the effective date of a registration statement of the Company filed under the Securities Act or such longer period as the underwriters or the Company will request to facilitate compliance with FINRA Rule 2711 or NYSE Member Rule 472 or any successor or similar rules or regulation (the "***Lock-Up Period***"); *provided, however*, that nothing contained in this section will prevent the exercise of a repurchase option, if any, in favor of the Company during the Lock-Up Period. You further agree to execute and deliver such other agreements as may be reasonably requested by the Company or the underwriters that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to your shares of Common Stock until the end of such period. You also agree that any transferee of any shares of Common Stock (or other securities) of the Company held by you will be bound by this Section 9(d). The underwriters of the Company's stock are intended third party beneficiaries of this Section 9(d) and will have the right, power and authority to enforce the provisions hereof as though they were a party hereto.

10. TRANSFERABILITY. Except as otherwise provided in this Section 10, your option is not transferable, except by will or by the laws of descent and distribution, and is exercisable during your life only by you.

(a) Certain Trusts. Upon receiving written permission from the Board or its duly authorized designee, you may transfer your option to a trust if you are considered to be the sole beneficial owner (determined under Section 671 of the Code and applicable state law) while the option is held in the trust. You and the trustee must enter into transfer and other agreements required by the Company.

(b) Domestic Relations Orders. Upon receiving written permission from the Board or its duly authorized designee, and provided that you and the designated transferee enter into transfer and other agreements required by the Company, you may transfer your option pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulation 1.421-1(b)(2) that contains the information required by the Company to effectuate the transfer. You are encouraged to discuss the proposed terms of any division of this option with the Company prior to finalizing the domestic relations order or marital settlement agreement to help ensure the required information is contained within the domestic relations order or marital settlement agreement. If this option is an Incentive Stock Option, this option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(c) Beneficiary Designation. Upon receiving written permission from the Board or its duly authorized designee, you may, by delivering written notice to the Company, in a form approved by the Company and any broker designated by the Company to handle option exercises, designate a third party who, on your death, will thereafter be entitled to exercise this option and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, your executor or administrator of your estate will be entitled to exercise this option and receive, on behalf of your estate, the Common Stock or other consideration resulting from such exercise.

11. RIGHT OF FIRST REFUSAL. Shares of Common Stock that you acquire upon exercise of your option are subject to any right of first refusal that may be described in the Company's bylaws in effect at such time the Company elects to exercise its right; *provided, however,* that if there is no right of first refusal described in the Company's bylaws at such time, the right of first refusal described below will apply. The Company's right of first refusal will expire on the first date upon which any security of the Company is listed (or approved for listing) upon notice of issuance on a national securities exchange or quotation system (the "***Listing Date***").

(a) Prior to the Listing Date, you may not validly Transfer (as defined below) any shares of Common Stock acquired upon exercise of your option, or any interest in such shares, unless such Transfer is made in compliance with the following provisions:

(i) Before there can be a valid Transfer of any shares of Common Stock or any interest therein, the record holder of the shares of Common Stock to be transferred (the "***Offered Shares***") will give written notice (by registered or certified mail) to the Company. Such notice will specify the identity of the proposed transferee, the cash price offered for the Offered Shares by the proposed transferee (or, if the proposed Transfer is one in which the holder will not receive cash, such as

an involuntary transfer, gift, donation or pledge, the holder will state that no purchase price is being proposed), and the other terms and conditions of the proposed Transfer. The date such notice is mailed will be hereinafter referred to as the "***Notice Date***" and the record holder of the Offered Shares will be hereinafter referred to as the "***Offeror***." If, from time to time, there is any stock dividend, stock split or other change in the character or amount of any of the outstanding Common Stock which is subject to the provisions of your option, then in such event any and all new, substituted or additional securities to which you are entitled by reason of your ownership of the shares of Common Stock acquired upon exercise of your option will be immediately subject to the Company's Right of First Refusal (as defined below) with the same force and effect as the shares subject to the Right of First Refusal immediately before such event.

(ii) For a period of thirty (30) calendar days after the Notice Date, or such longer period as may be required to avoid the classification of your option as a liability for financial accounting purposes, the Company will have the option to purchase all (but not less than all) of the Offered Shares at the purchase price and on the terms set forth in Section 11(a)(iii) (the Company's "***Right of First Refusal***"). In the event that the proposed Transfer is one involving no payment of a purchase price, the purchase price will be deemed to be the Fair Market Value of the Offered Shares as determined in good faith by the Board in its discretion. The Company may exercise its Right of First Refusal by mailing (by registered or certified mail) written notice of exercise of its Right of First Refusal to the Offeror prior to the end of said thirty (30) days (including any extension required to avoid classification of the option as a liability for financial accounting purposes).

(iii) The price at which the Company may purchase the Offered Shares pursuant to the exercise of its Right of First Refusal will be the cash price offered for the Offered Shares by the proposed transferee (as set forth in the notice required under Section 11(a)(i)), or the Fair Market Value as determined by the Board in the event no purchase price is involved. To the extent consideration other than cash is offered by the proposed transferee, the Company will not be required to pay any additional amounts to the Offeror other than the cash price offered (or the Fair Market Value, if applicable). The Company's notice of exercise of its Right of First Refusal will be accompanied by full payment for the Offered Shares and, upon such payment by the Company, the Company will acquire full right, title and interest to all of the Offered Shares.

(iv) If, and only if, the option given pursuant to Section 11(a)(ii) is not exercised, the Transfer proposed in the notice given pursuant to Section 11(a)(i) may take place; *provided, however*, that such Transfer must, in all respects, be exactly as proposed in said notice except that such Transfer may not take place either before the tenth (10^{th}) calendar day after the expiration of the thirty (30) day option exercise period or after the ninetieth (90^{th}) calendar day after the expiration of the thirty (30) day option exercise period, and if such Transfer has not taken place prior to said ninetieth (90^{th}) day, such Transfer may not take place without once again complying with this Section 11(a). The option exercise periods in this Section 11(a)(iv) will be adjusted to include any extension required to avoid the classification of your option as a liability for financial accounting purposes.

(b) As used in this Section 11, the term "***Transfer***" means any sale, encumbrance, pledge, gift or other form of disposition or transfer of shares of Common Stock or any legal or equitable interest therein; *provided, however*, that the term Transfer does not include a transfer of such shares or interests by will or intestacy to your Immediate Family (as defined below). In such case, the transferee or other recipient will receive and hold the shares of Common Stock so transferred subject to the provisions of this Section, and there will be no further transfer of such shares except in accordance with the terms of this Section 11. As used herein, the term "***Immediate Family***" will mean your spouse, the lineal descendant or antecedent, father, mother, brother or sister, child, adopted child, grandchild or adopted grandchild of you or your spouse, or the spouse of any child, adopted child, grandchild or adopted grandchild of you or your spouse.

(c) None of the shares of Common Stock purchased on exercise of your option will be transferred on the Company's books nor will the Company recognize any such Transfer of any such shares or any interest therein unless and until all applicable provisions of this Section 11 have been complied with in all respects. The certificates of stock evidencing shares of Common Stock purchased on exercise of your option will bear an appropriate legend referring to the transfer restrictions imposed by this Section 11.

(d) To ensure that the shares subject to the Company's Right of First Refusal will be available for repurchase by the Company, the Company may require you to deposit the certificates evidencing the shares that you purchase upon exercise of your option with an escrow agent designated by the Company under the terms and conditions of an escrow agreement approved by the Company. If the Company does not require such deposit as a condition of exercise of your option, the Company reserves the right at any time to require you to so deposit the certificates in escrow. As soon as practicable after the expiration of the Company's Right of First Refusal, the agent will deliver to you the shares and any other property no longer subject to such restriction. In the event the shares and any other property held in escrow are subject to the Company's exercise of its Right of First Refusal, the notices required to be given to you will be given to the escrow agent, and any payment required to be given to you will be given to the escrow agent. Within thirty (30) days after payment by the Company for the Offered Shares, the escrow agent will deliver the Offered Shares that the Company has repurchased to the Company and will deliver the payment received from the Company to you.

12. RIGHT OF REPURCHASE. To the extent provided in the Company's bylaws in effect at such time the Company elects to exercise its right, the Company will have the right to repurchase all or any part of the shares of Common Stock you acquire pursuant to the exercise of your option.

13. OPTION NOT A SERVICE CONTRACT. Your option is not an employment or service contract, and nothing in your option will be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option will obligate the Company or an Affiliate, their respective stockholders, boards of directors, officers or employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

14. WITHHOLDING OBLIGATIONS.

(a) At the time you exercise your option, in whole or in part, and at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "same day sale" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your option.

(b) If this option is a Nonstatutory Stock Option, then upon your request and subject to approval by the Company, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the minimum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid classification of your option as a liability for financial accounting purposes). If the date of determination of any tax withholding obligation is deferred to a date later than the date of exercise of your option, share withholding pursuant to the preceding sentence shall not be permitted unless you make a proper and timely election under Section 83(b) of the Code, covering the aggregate number of shares of Common Stock acquired upon such exercise with respect to which such determination is otherwise deferred, to accelerate the determination of such tax withholding obligation to the date of exercise of your option. Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(c) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company will have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein, if applicable, unless such obligations are satisfied.

15. TAX CONSEQUENCES. You hereby agree that the Company does not have a duty to design or administer the Plan or its other compensation programs in a manner that minimizes your tax liabilities. You will not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates related to tax liabilities arising from your option or your other compensation. In particular, you acknowledge that this option is exempt from Section 409A of the Code only if the exercise price per share specified in the Grant Notice is at least equal to the "fair market value" per share of the Common Stock on the Date of Grant and there is no other impermissible deferral of compensation associated with the option. Because the Common Stock is not traded on an established securities market, the Fair Market Value is determined by the Board, perhaps in consultation with an independent valuation firm retained by the Company. You acknowledge that there is no guarantee that the Internal Revenue Service will agree with the valuation as determined by the Board, and you will not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates in the event that the Internal Revenue Service asserts that the valuation determined by the Board is less than the "fair market value" as subsequently determined by the Internal Revenue Service.

16. NOTICES. Any notices provided for in your option or the Plan will be given in writing (including electronically) and will be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company. The Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan and this option by electronic means or to request your consent to participate in the Plan by electronic means. By accepting this option, you consent to receive such documents by electronic delivery and to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

17. GOVERNING PLAN DOCUMENT. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. If there is any conflict between the provisions of your option and those of the Plan, the provisions of the Plan will control.

ATTACHMENT II

2015 EQUITY INCENTIVE PLAN

ATTACHMENT III

NOTICE OF EXERCISE

PLIANT THERAPEUTICS, INC.
NOTICE OF EXERCISE

Pliant Therapeutics, Inc.
260 Littlefield Ave.
South San Francisco, California 94080

Date of Exercise: _____

This constitutes notice to **PLIANT THERAPEUTICS, INC.** (the "***Company***") under my stock option that I elect to purchase the below number of shares of Common Stock of the Company (the "***Shares***") for the price set forth below.

Type of option (check one):	Incentive ☐	Nonstatutory ☐
Stock option dated:	_____	_____
Number of Shares as to which option is exercised:	_____	_____
Certificate to be issued in name of (legal name of Participant) :	_____	_____
Total exercise price:	$_____	$_____
Cash payment delivered herewith:	$_____	$_____

By this exercise, I agree (i) to provide such additional documents as you may require pursuant to the terms of the 2015 Equity Incentive Plan, (ii) to provide for the payment by me to you (in the manner designated by you) of your withholding obligation, if any, relating to the exercise of this option, and (iii) if this exercise relates to an incentive stock option, to notify you in writing within fifteen (15) days after the date of any disposition of any of the Shares issued upon exercise of this option that occurs within two (2) years after the date of grant of this option or within one (1) year after such Shares are issued upon exercise of this option.

I further agree that, if required by the Company (or a representative of the underwriters) in connection with the first underwritten registration of the offering of any securities of the Company under the Securities Act, I will not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale with respect to any shares of Common Stock or other securities of the Company for a period of one hundred eighty (180) days following the effective date of a registration statement of the Company filed under the Securities Act (or such longer period as the underwriters or the Company shall request to facilitate compliance with FINRA Rule 2711 or NYSE Member Rule 472 or any successor or similar rule or regulation) (the "***Lock-Up Period***"). I further agree to execute and deliver such other agreements as may be reasonably requested by the Company or the underwriters that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to securities subject to the foregoing restrictions until the end of such period.

Very truly yours,

(Signature)

Name (Please Print)

Email Address:

Address of Record:

PLIANT THERAPEUTICS, INC.
RESTRICTED STOCK PURCHASE GRANT NOTICE
(2015 EQUITY INCENTIVE PLAN)

Pliant Therapeutics, Inc. (the "***Company***"), pursuant to its 2015 Equity Incentive Plan (the "***Plan***"), hereby grants to Participant the right to purchase the number of shares of the Company's Common Stock set forth below ("***Award***"). This Award is subject to all of the terms and conditions as set forth herein and in the Restricted Stock Purchase Agreement, and the Plan both of which are attached hereto and incorporated herein in their entirety. Defined terms not explicitly defined herein but defined in the Plan shall have the same definitions as in the Plan.

Participant:	_____
Date of Grant:	_____
Vesting Commencement Date:	_____
Number of Shares Subject to Award:	_____
Purchase Price per Share:	_____
Total Purchase Price:	_____
Closing Date:	_____

Vesting Schedule:

Payment: By cash or check

Additional Terms/Acknowledgements: The undersigned Participant acknowledges receipt of, and understands and agrees to, this Restricted Stock Purchase Grant Notice, the Restricted Stock Purchase Agreement and the Plan. Participant further acknowledges that as of the Date of Grant, this Restricted Stock Purchase Grant Notice, the Restricted Stock Purchase Agreement and the Plan set forth the entire understanding between Participant and the Company regarding the acquisition of stock in the Company and supersede all prior oral and written agreements on that subject with the exception of (i) stock awards previously granted and delivered to Participant under the Plan and (ii) the following agreements only:

OTHER AGREEMENTS: _____

_____

_____

PLIANT THERAPEUTICS, INC.

By: _____
Signature

Title: _____

Date: _____

PARTICIPANT:

_____
Signature

Date: _____

ATTACHMENTS:

Attachment I: Restricted Stock Purchase Agreement

Attachment II:	Equity Incentive Plan
Attachment III:	Assignment Separate from Certificate
Attachment IV:	Joint Escrow Instructions
Attachment V:	83(b) Election
	Instructions for filing 83(b) Election

ATTACHMENT I

RESTRICTED STOCK PURCHASE AGREEMENT

PLIANT THERAPEUTICS, INC.
2015 EQUITY INCENTIVE PLAN

RESTRICTED STOCK PURCHASE AGREEMENT

Pliant Therapeutics, Inc. (the "***Company***") wishes to sell to you, and you wish to purchase, shares of Common Stock from the Company, pursuant to the provisions of the Company's 2015 Equity Incentive Plan (the "***Plan***").

Therefore, pursuant to the terms of the Restricted Stock Purchase Grant Notice ("***Grant Notice***") and this Restricted Stock Purchase Agreement ("***Agreement***") (collectively, the "***Award***"), the Company grants you the right to purchase the number of shares of Common Stock indicated in the Grant Notice. Defined terms not explicitly defined in this Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your Award are as follows:

1. AGREEMENT TO PURCHASE. You hereby agree to purchase from the Company, and the Company hereby agrees to sell to you, the aggregate number of shares of Common Stock specified in your Grant Notice at the specified Purchase Price per Share. You may not purchase less than the aggregate number of shares specified in the Grant Notice.

2. CLOSING. The purchase and sale of the shares shall be consummated as follows:

(a) You may purchase the shares by delivering the Total Purchase Price referenced in your Grant Notice to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, on the Closing Date specified in the Grant Notice (or at such other time and place as you and the Company may mutually agree upon in writing) along with such additional documents as the Company may then require.

(b) You agree to execute two (2) copies of the Assignment Separate From Certificate (with date and number of shares blank) substantially in the form attached hereto and to execute Joint Escrow Instructions substantially in the form attached hereto and to deliver the same to the Company on the Closing Date, along with the certificate or certificates evidencing the shares, for use by the Escrow Agent pursuant to the terms of the Joint Escrow Instructions.

3. VESTING. Subject to the limitations contained herein, the shares you purchase will vest as provided in your Grant Notice (including any accelerated vesting provided therein), provided that vesting will cease upon the termination of your Continuous Service.

4. NUMBER OF SHARES AND PURCHASE PRICE. The number of shares of Common Stock subject to your Award and your Purchase Price per Share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

5. SECURITIES LAW COMPLIANCE. Notwithstanding anything to the contrary contained herein, you may not purchase any shares of Common Stock under your Award unless the shares of Common Stock issuable upon such purchase are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined

that such purchase and issuance would be exempt from the registration requirements of the Securities Act. The purchase of shares under your Award also must comply with other applicable laws and regulations governing your Award, and you may purchase such shares if the Company determines that such purchase would not be in material compliance with such laws and regulations.

6. UNVESTED SHARE REPURCHASE OPTION

(a) Repurchase Option. In the event your Continuous Service terminates, then the Company shall have an irrevocable option (the "***Repurchase Option***") for a period of ninety (90) days after said termination, or such longer period as may be agreed to by you and the Company, to repurchase from you or your personal representative, as the case may be, those shares that you purchased pursuant to this Agreement that have not as yet vested as of such termination date in accordance with the Vesting Schedule indicated on your Grant Notice (the "***Unvested Shares***").

(b) Shares Repurchasable at the Lower of your Original Purchase Price or Fair Market Value. The Company may repurchase all or any of the Unvested Shares at a price equal to the lower of your Purchase Price for such shares as indicated on your Grant Notice or the Fair Market Value of the Unvested Shares on the date of repurchase.

(c) Exercise of Repurchase Option. Unless the Company notifies you within 90 days from the date of termination of your Continuous Service that it does not intend to exercise the Repurchase Option with respect to some or all of the Unvested Shares, the Repurchase Option shall be deemed automatically exercised by the Company as of the 90th day following such termination, provided that the Company may notify you that it is exercising the Repurchase Option as of a date prior to such 90th day. Unless you are otherwise notified by the Company pursuant to the preceding sentence that the Company does not intend to exercise the Repurchase Option as to some or all of the Unvested Shares to which it applies at the time of termination, execution of this Agreement by you constitutes written notice to you of the Company's intention to exercise the Repurchase Option with respect to all Unvested Shares to which the Repurchase Option applies. The Company, at its choice, may satisfy its payment obligation to you with respect to exercise of the Repurchase Option by either (A) delivering a check to you in the amount of the purchase price for the Unvested Shares being repurchased, or (B) in the event you are indebted to the Company, canceling an amount of such indebtedness equal to the purchase price for the Unvested Shares being repurchased, or (C) by a combination of (A) and (B) so that the combined payment and cancellation of indebtedness equals such purchase price. In the event of any deemed automatic exercise of the Repurchase Option pursuant to this Section 6 in which you are indebted to the Company, such indebtedness equal to the purchase price of the Unvested Shares being repurchased shall be deemed automatically canceled as of the 90th day following termination of your Continuous Service unless the Company otherwise satisfies its payment obligations. As a result of any repurchase of Unvested Shares pursuant to this Section 6, the Company shall become the legal and beneficial owner of the Unvested Shares being repurchased and shall have all rights and interest therein or related thereto, and the Company shall have the right to transfer to its own name the number of Unvested Shares being repurchased by the Company, without further action by you.

(d) Corporate Transactions. If, from time to time, there is any Capitalization Adjustment or Corporate Transaction, any and all new, substituted or additional securities or other property to which you is entitled by reason of your ownership of the shares acquired under your Award shall be immediately subject to the Repurchase Option with the same force and effect as the shares subject to the Repurchase Option immediately before such event.

(e) Escrow of Common Stock. The shares issued under your Award shall be held in escrow pursuant to the terms of the Joint Escrow Instructions attached to the Grant Notice as **ATTACHMENT IV**. You agree to execute two (2) Assignment Separate From Certificate forms (with date and number of shares blank) substantially in the form attached to the Grant Notice as **ATTACHMENT III** and deliver the same, along with the certificate or certificates evidencing the shares, for use by the escrow agent pursuant to the terms of the Joint Escrow Instructions.

7. RIGHTS AS STOCKHOLDER. Subject to the provisions of this Agreement, you shall exercise all rights and privileges of a stockholder of the Company with respect to the shares deposited in escrow. You shall be deemed to be the holder of the shares for purposes of receiving any dividends that may be paid with respect to such shares and for purposes of exercising any voting rights relating to such shares, even if some or all of the shares have not yet vested and been released from the Company's Repurchase Option.

8. LIMITATIONS ON TRANSFER. In addition to any other limitation on transfer created by this Agreement or applicable securities laws, you shall not sell, assign, hypothecate, donate, encumber or otherwise dispose of any interest in the Common Stock while the Common Stock is subject to the Repurchase Option. After any Common Stock has been released from the Repurchase Option, you shall not sell, assign, hypothecate, donate, encumber or otherwise dispose of any interest in the Common Stock except in compliance with the provisions herein and applicable securities laws.

9. RESTRICTIVE LEGENDS. All certificates representing the Common Stock shall have endorsed thereon legends in substantially the following forms (in addition to any other legend which may be required by other agreements between the parties hereto):

(a) "THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO AN OPTION SET FORTH IN AN AGREEMENT BETWEEN THE COMPANY AND THE REGISTERED HOLDER, OR SUCH HOLDER'S PREDECESSOR IN INTEREST, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THIS COMPANY. ANY TRANSFER OR ATTEMPTED TRANSFER OF ANY SHARES SUBJECT TO SUCH OPTION IS VOID WITHOUT THE PRIOR EXPRESS WRITTEN CONSENT OF THE COMPANY."

(b) "THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AS AMENDED. THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT AS TO THE SECURITIES UNDER SAID ACT OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED."

(c) "THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A RIGHT OF FIRST REFUSAL OPTION IN FAVOR OF THE COMPANY AND/OR ITS ASSIGNEE(S) AS PROVIDED IN AN AGREEMENT BETWEEN THE COMPANY AND THE REGISTERED HOLDER, OR SUCH HOLDER'S PREDECESSOR IN INTEREST, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THE COMPANY."

(d) "THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A TRANSFER RESTRICTION, AS PROVIDED IN THE BYLAWS OF THE COMPANY."

(e) Any legend required by appropriate blue sky officials.

10. INVESTMENT REPRESENTATIONS. In connection with the purchase of the Common Stock, you represent to the Company the following:

(a) You are aware of the Company's business affairs and financial condition and have acquired sufficient information about the Company to reach an informed and knowledgeable decision to acquire the Common Stock. You are acquiring the Common Stock for investment for your own account only and not with a view to, or for resale in connection with, any "distribution" thereof within the meaning of the Securities Act.

(b) You understand that the Common Stock has not been registered under the Securities Act by reason of a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of your investment intent as expressed herein.

(c) You further acknowledge and understand that the Common Stock must be held indefinitely unless the Common Stock is subsequently registered under the Securities Act or an exemption from such registration is available. You further acknowledge and understand that the Company is under no obligation to register the Common Stock. You understand that the certificate evidencing the Common Stock will be imprinted with a legend that prohibits the transfer of the Common Stock unless the Common Stock is registered or such registration is not required in the opinion of counsel for the Company.

(d) You are familiar with the provisions of Rules 144 and 701, under the Securities Act, as in effect from time to time, which, in substance, permit limited public resale of "restricted securities" acquired, directly or indirectly, from the issuer thereof (or from an affiliate of such issuer), in a non-public offering subject to the satisfaction of certain conditions. Rule 701 provides that if the issuer qualifies under Rule 701 at the time of issuance of the securities, such issuance will be exempt from registration under the Securities Act. In the event the Company becomes subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the securities exempt under Rule 701 may be sold by you ninety (90) days thereafter, subject to the satisfaction of certain of the conditions specified by Rule 144 and the market stand-off provision described in Section 11 below.

(e) In the event that the sale of the Common Stock does not qualify under Rule 701 at the time of purchase, then the Common Stock may be resold by you in certain limited circumstances subject to the provisions of Rule 144, which requires, among other things: (i) the availability of certain public information about the Company and (ii) the resale occurring following the required holding period under Rule 144 after you have purchased, and made full payment of (within the meaning of Rule 144), the securities to be sold.

(f) You further understand that at the time you wish to sell the Common Stock there may be no public market upon which to make such a sale, and that, even if such a public market then exists, the Company may not be satisfying the current public current information requirements of Rule 144 or 701, and that, in such event, you would be precluded from selling the Common Stock under Rule 144 or 701 even if the minimum holding period requirement had been satisfied.

11. MARKET STAND-OFF AGREEMENT. You agree that you will not sell, dispose of, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale with respect to any shares of Common Stock or other securities of the Company held by you, for a period of one hundred eighty (180) days following the effective date of a registration statement of the Company filed under the Securities Act or such longer period as the underwriters or the Company will request to facilitate compliance with FINRA Rule 2711 or NYSE Member Rule 472 or any successor or similar rules or regulation (the "***Lock-Up Period***"); *provided, however,* that nothing contained in this section will prevent the exercise of a repurchase option, if any, in favor of the Company during the Lock-Up Period. You further agree to execute and deliver such other agreements as may be reasonably requested by the Company or the underwriters that are consistent with the foregoing or that are necessary to give further effect thereto. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to your shares of Common Stock until the end of such period. You also agree that any transferee of any shares of Common Stock (or other securities) of the Company held by you will be bound by this Section 11. The underwriters of the Company's stock are intended third party beneficiaries of this Section 11 and will have the right, power and authority to enforce the provisions hereof as though they were a party hereto.

12. TRANSFERABILITY. Your Award is not transferable except by will or by the laws of descent and distribution and shall be exercisable during your lifetime only by you.

13. RIGHT OF FIRST REFUSAL. Shares that are received under your Award are subject to any right of first refusal that may be described in the Company's bylaws in effect at such time the Company elects to exercise its right; *provided, however,* that if there is no right of first refusal described in the Company's bylaws at such time, the right of first refusal described below will apply. The Company's right of first refusal will expire on the first date upon which any security of the Company is listed (or approved for listing) upon notice of issuance on a national securities exchange or quotation system (the "***Listing Date***").

(a) Prior to the Listing Date, you may not validly Transfer (as defined below) any shares of Common Stock received under the Award, or any interest in such shares, unless such Transfer is made in compliance with the following provisions:

(i) Before there can be a valid Transfer of any shares of Common Stock or any interest therein, the record holder of the shares of Common Stock to be transferred (the "***Offered Shares***") will give written notice (by registered or certified mail) to the Company. Such notice will specify the identity of the proposed transferee, the cash price offered for the Offered Shares by the proposed transferee (or, if the proposed Transfer is one in which the holder will not receive cash, such as an involuntary transfer, gift, donation or pledge, the holder will state that no purchase price is being proposed), and the other terms and conditions of the proposed Transfer. The date such notice is mailed will be hereinafter referred to as the "***Notice Date***" and the record holder of the Offered Shares will be hereinafter referred to as the "***Offeror***." If, from time to time, there is any stock dividend, stock split or other change in the character or amount of any of the outstanding Common Stock which is subject to the provisions of your Award, then in such event any and all new, substituted or additional securities to which you are entitled by reason of your ownership of the shares of Common Stock received under the Award will be immediately subject to the Company's Right of First Refusal (as defined below) with the same force and effect as the shares subject to the Right of First Refusal immediately before such event.

(ii) For a period of thirty (30) calendar days after the Notice Date, the Company will have the option to purchase all (but not less than all) of the Offered Shares at the purchase price and on the terms set forth in Section 13(a)(iii) (the Company's "***Right of First Refusal***"). In the event that the proposed Transfer is one involving no payment of a purchase price, the purchase price will be deemed to be the Fair Market Value of the Offered Shares as determined in good faith by the Board in its discretion. The Company may exercise its Right of First Refusal by mailing (by registered or certified mail) written notice of exercise of its Right of First Refusal to the Offeror prior to the end of said thirty (30) days.

(iii) The price at which the Company may purchase the Offered Shares pursuant to the exercise of its Right of First Refusal will be the cash price offered for the Offered Shares by the proposed transferee (as set forth in the notice required under Section 13(a)(i)), or the Fair Market Value as determined by the Board in the event no purchase price is involved. To the extent consideration other than cash is offered by the proposed transferee, the Company will not be required to pay any additional amounts to the Offeror other than the cash price offered (or the Fair Market Value, if applicable). The Company's notice of exercise of its Right of First Refusal will be accompanied by full payment for the Offered Shares and, upon such payment by the Company, the Company will acquire full right, title and interest to all of the Offered Shares.

(iv) If, and only if, the option given pursuant to Section 13(a)(ii) is not exercised, the Transfer proposed in the notice given pursuant to Section 13(a)(i) may take place; *provided*, *however*, that such Transfer must, in all respects, be exactly as proposed in said notice except that such Transfer may not take place either before the tenth (10^{th}) calendar day after the expiration of the thirty (30) day option exercise period or after the ninetieth (90^{th}) calendar day after the expiration of the thirty (30) day option exercise period, and if such Transfer has not taken place prior to said ninetieth (90^{th}) day, such Transfer may not take place without once again complying with this Section 13(a).

(b) As used in this Section 13, the term "***Transfer***" means any sale, encumbrance, pledge, gift or other form of disposition or transfer of shares of Common Stock or any legal or equitable interest therein; *provided, however*, that the term Transfer does not include a transfer of such shares or interests by will or intestacy to your Immediate Family (as defined below). In such case, the transferee or other recipient will receive and hold the shares of Common Stock so transferred subject to the provisions of this Section, and there will be no further transfer of such shares except in accordance with the terms of this Section 13. As used herein, the term "***Immediate Family***" will mean your spouse, the lineal descendant or antecedent, father, mother, brother or sister, child, adopted child, grandchild or adopted grandchild of you or your spouse, or the spouse of any child, adopted child, grandchild or adopted grandchild of you or your spouse.

(c) None of the shares of Common Stock received under the Award will be transferred on the Company's books nor will the Company recognize any such Transfer of any such shares or any interest therein unless and until all applicable provisions of this Section 13 have been complied with in all respects. The certificates of stock evidencing shares of Common Stock received under the Award will bear an appropriate legend referring to the transfer restrictions imposed by this Section 13.

(d) To ensure that the shares subject to the Company's Right of First Refusal will be available for repurchase by the Company, the Company may require you to deposit the certificates evidencing the shares received under the Award with an escrow agent designated by the Company under the terms and conditions of an escrow agreement approved by the Company. If the Company does not require such deposit as a condition of a receipt of shares under the Award, the Company reserves the right at any time to require you to so deposit the certificates in escrow. As soon as practicable after the expiration of the Company's Right of First Refusal, the agent will deliver to you the shares and any other property no longer subject to such restriction. In the event the shares and any other property held in escrow are subject to the Company's exercise of its Right of First Refusal, the notices required to be given to you will be given to the escrow agent, and any payment required to be given to you will be given to the escrow agent. Within thirty (30) days after payment by the Company for the Offered Shares, the escrow agent will deliver the Offered Shares that the Company has repurchased to the Company and will deliver the payment received from the Company to you.

14. RIGHT OF REPURCHASE. To the extent provided in the Company's bylaws in effect at such time the Company elects to exercise its right, the Company shall have the right to repurchase all or any part of the shares of Common Stock that have been released from the Company's Repurchase Option.

15. AWARD NOT A SERVICE CONTRACT. Your Award is not an employment or service contract, and nothing in your Award shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your Award shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

16. WITHHOLDING OBLIGATIONS.

(a) At the time your Award is granted, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for, any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with your Award.

(b) Unless the tax withholding obligations of the Company or any Affiliate are satisfied, the Company shall have no obligation to issue a certificate for such shares or release such shares from any escrow provided for herein.

17. TAX CONSEQUENCES. You agree to review with your own tax advisors the federal, state, local and foreign tax consequences of this investment and the transactions contemplated by this Agreement. You shall rely solely on such advisors and not on any statements or representations of the Company or any of its agents. You understand that you (and not the Company) shall be responsible for your own tax liability that may arise as a result of this investment or the transactions contemplated by this Agreement. You understand that Section 83 of the Code taxes as ordinary income to you the fair market value of the shares of Common Stock as of the date any restrictions on the shares lapse (that is, as of the date on which part or all of the shares vest). In this context, "restriction" includes the right of the Company to reacquire the shares pursuant to its Repurchase Option. You understand that you may elect to be taxed on the fair market value of the shares at the time the shares are acquired rather than when and as the Company's Repurchase Option expires by filing an election under Section 83(b) of the Code with the Internal Revenue Service within thirty (30) days after the date of your Award, a copy of which is attached hereto as **ATTACHMENT V**. YOU ACKNOWLEDGE THAT IT IS YOUR SOLE RESPONSIBILITY, AND NOT THE COMPANY'S, TO FILE A TIMELY ELECTION UNDER CODE SECTION 83(B), EVEN IF YOU REQUEST THE COMPANY OR ITS REPRESENTATIVES TO MAKE THE FILING ON YOUR BEHALF.

18. NOTICES. So long as your Continuous Service has not terminated, any notices provided for in your Award or the Plan may be delivered electronically or posted on the Company's intranet. After termination of your Continuous Service, any notices provided for in your Award or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

19. MISCELLANEOUS.

(a) The rights and obligations of the Company under your Award shall be transferable to any one or more persons or entities, and all covenants and agreements hereunder shall inure to the benefit of, and be enforceable by the Company's successors and assigns. Your rights and obligations under your Award may only be assigned with the prior written consent of the Company.

(b) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of your Award.

(c) You acknowledge and agree that you have reviewed your Award in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting your Award and fully understand all provisions of your Award.

20. GOVERNING PLAN DOCUMENT. Your Award is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your Award, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your Award and those of the Plan, the provisions of the Plan shall control.

ATTACHMENT II

EQUITY INCENTIVE PLAN

ATTACHMENT III

STOCK ASSIGNMENT SEPARATE FROM CERTIFICATE

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto **PLIANT THERAPEUTICS, INC.**, a Delaware corporation (the "***Company***"), pursuant to the Repurchase Option under that certain Restricted Stock Purchase Grant Notice, dated [●], by and between the undersigned and the Company (the "***Agreement***") [●] shares of Common Stock of the Company standing in the undersigned's name on the books of the Company represented by Certificate No[s] [●] and does hereby irrevocably constitute and appoint both the Company's Secretary and the Company's attorney, or either of them, to transfer said stock on the books of the Company with full power of substitution in the premises. This Assignment may be used only in accordance with and subject to the terms and conditions of the Agreement, in connection with the repurchase of shares of Common Stock issued to the undersigned pursuant to the Agreement, and only to the extent that such shares remain subject to the Company's Repurchase Option under the Agreement.

Dated: _____
(leave blank)

_____
(Signature)

_____
Name (Please Print)

INSTRUCTION: ***Please do not fill in any blanks other than the signature line. Do not fill in the date line***. The purpose of this Assignment is to enable the Company to exercise its Repurchase Option set forth in the Agreement without requiring additional signatures on the part of Purchaser.

ATTACHMENT IV

JOINT ESCROW INSTRUCTIONS

JOINT ESCROW INSTRUCTIONS

Date: _____

Pliant Therapeutics, Inc.
260 Littlefield Ave.
South San Francisco, California 94080
Attn: Secretary

Ladies and Gentlemen:

As Escrow Agent for both Pliant Therapeutics, Inc., a Delaware corporation ("***Company***") and the purchaser listed on the signature page hereto ("***Purchaser***"), you are hereby authorized and directed to hold the documents delivered to you pursuant to the terms of that certain Restricted Stock Purchase Grant Notice dated as of [●] ("***Agreement***"), to which a copy of these Joint Escrow Instructions is attached as an Exhibit, in accordance with the following instructions:

1. In the event Company or an assignee shall elect to exercise the Repurchase Option set forth in the Agreement, the Company or its assignee will give to Purchaser and you a written notice specifying the number of shares of stock to be acquired and the time for a closing thereunder at the principal office of the Company. Purchaser and the Company hereby irrevocably authorize and direct you to close the transaction contemplated by such notice in accordance with the terms of said notice.

2. At the closing you are directed (a) to date any stock assignments necessary for the transfer in question, (b) to fill in the number of shares being transferred, and (c) to deliver same, together with the certificate evidencing the shares of Common Stock to be transferred, to the Company against the simultaneous delivery to you of the purchase price (which may include suitable acknowledgment of cancellation of indebtedness) of the number of shares of Common Stock being purchased pursuant to the exercise of the Repurchase Option.

3. Purchaser irrevocably authorizes the Company to deposit with you any certificates evidencing shares of stock to be held by you hereunder and any additions and substitutions to said shares as specified in the Agreement. Purchaser does hereby irrevocably constitute and appoint you as his attorney-in-fact and agent for the term of this escrow to execute with respect to such securities all documents necessary or appropriate to make such securities negotiable and complete any transaction herein contemplated, including but not limited to any appropriate filing with state or government officials or bank officials. Subject to the provisions of this paragraph 3, Purchaser shall exercise all rights and privileges of a stockholder of the Company while the stock is held by you.

4. This escrow shall terminate upon the exercise in full or expiration of the Repurchase Option, whichever occurs first.

5. If at the time of termination of this escrow under Section 4 herein you should have in your possession any documents, securities, or other property belonging to Purchaser, you shall deliver all of the same to Purchaser and shall be discharged of all further obligations hereunder; provided, however, that if at the time of termination of this escrow you are advised by the Company that any property subject to this escrow is the subject of a pledge or other security agreement, you shall deliver all such property to the pledgeholder or other person designated by the Company.

6. Except as otherwise provided in these Joint Escrow Instructions, your duties hereunder may be altered, amended, modified or revoked only by a writing signed by all of the parties hereto.

7. You shall be obligated only for the performance of such duties as are specifically set forth herein and may rely and shall be protected in relying or refraining from acting on any instrument reasonably believed by you to be genuine and to have been signed or presented by the proper party or parties. You shall not be personally liable for any act you may do or omit to do hereunder as Escrow Agent or as attorney-in-fact for Purchaser while acting in good faith and in the exercise of your own good judgment, and any act done or omitted by you pursuant to the advice of your own attorneys shall be conclusive evidence of such good faith.

8. You are hereby expressly authorized to disregard any and all warnings given by any of the parties hereto or by any other person or entity, excepting only orders or process of courts of law, and are hereby expressly authorized to comply with and obey orders, judgments or decrees of any court. In case you obey or comply with any such order, judgment or decree of any court, you shall not be liable to any of the parties hereto or to any other person, firm or corporation by reason of such compliance, notwithstanding any such order, judgment or decree being subsequently reversed, modified, annulled, set aside, vacated or found to have been entered without jurisdiction.

9. You shall not be liable in any respect on account of the identity, authorities or rights of the parties executing or delivering or purporting to execute or deliver these Joint Escrow Instructions documents or papers deposited or called for hereunder.

10. You shall not be liable for the outlawing of any rights under any statute of limitations with respect to these Joint Escrow Instructions or any documents deposited with you.

11. Your responsibilities as Escrow Agent hereunder shall terminate if you shall cease to be Secretary of the Company or if you shall resign by written notice to the Company. In the event of any such termination, the Secretary of the Company shall automatically become the successor Escrow Agent unless the Company shall appoint another successor Escrow Agent, and Purchaser hereby confirms the appointment of such successor as Purchaser’s attorney-in-fact and agent to the full extent of your appointment.

12. If you reasonably require other or further instruments in connection with these Joint Escrow Instructions or obligations in respect hereto, the necessary parties hereto shall join in furnishing such instruments.

13. It is understood and agreed that should any dispute arise with respect to the delivery and/or ownership or right of possession of the securities held by you hereunder, you are authorized and directed to retain in your possession without liability to anyone all or any part of said securities until such dispute shall have been settled either by mutual written agreement of the parties concerned or by a final order, decree or judgment of a court of competent jurisdiction after the time for appeal has expired and no appeal has been perfected, but you shall be under no duty whatsoever to institute or defend any such proceedings.

14. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed telex or facsimile if sent during normal business hours of the recipient, and if not during normal business hours of the recipient, then on the next business day, (c) five (5) calendar days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) business day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the other party hereto at such party's address set forth below, or at such other address as such party may designate by ten (10) days advance written notice to the other party hereto.

Company:	**Pliant Therapeutics, Inc.** **260 Littlefield Ave.** **South San Francisco, California 94080**
Purchaser:	_____ _____ _____
Escrow Agent:	**Address set forth on Page 1**

15. By signing these Joint Escrow Instructions, you become a party hereto only for the purpose of said Joint Escrow Instructions; you do not become a party to the Agreement.

16. You shall be entitled to employ such legal counsel and other experts (including, without limitation, the firm of Goodwin Procter LLP) as you may deem necessary properly to advise you in connection with your obligations hereunder. You may rely upon the advice of such counsel, and you may pay such counsel reasonable compensation therefor. The Company shall be responsible for all fees generated by such legal counsel in connection with your obligations hereunder.

17. This instrument shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns. It is understood and agreed that references to "you" and "your" herein refer to the original Escrow Agents. It is understood and agreed that the Company may at any time or from time to time assign its rights under the Agreement and these Joint Escrow Instructions.

[Remainder of page intentionally left blank]

18. These Joint Escrow Instructions shall be governed by and interpreted and determined in accordance with the laws of the State of California, as such laws are applied by California courts to contracts made and to be performed entirely in California by residents of that state. The parties hereby expressly consent to the personal jurisdiction of the state and federal courts located in Santa Clara County, California for any lawsuit arising from or related to this Agreement.

Very truly yours,

COMPANY:

PLIANT THERAPEUTICS, INC.

By: _____

Name: _____
Title: _____

PURCHASER:

_____
(Signature)

_____
Name (Please Print)

ESCROW AGENT:

_____
Secretary

[SIGNATURE PAGE TO JOINT ESCROW INSTRUCTIONS]

ATTACHMENT V

83(B) ELECTION

SECTION 83(b) ELECTION

Date: _____

Department of the Treasury
Internal Revenue Service
[City, State Zip]

Re: Election Under Section 83(b)

Ladies and Gentlemen:

The undersigned taxpayer hereby elects, pursuant to Section 83(b) of the Internal Revenue Code of 1986, as amended, to include in gross income as compensation for services the excess (if any) of the fair market value of the shares described below over the amount paid for those shares. The following information is supplied in accordance with Treasury Regulation § 1.83-2:

1. **The name, social security number, address of the undersigned, and the taxable year for which this election is being made are:**

   Name: _____
   Social Security Number: _____
   Address: _____
   _____

   Taxable year: Calendar year 20__.

2. **The property that is the subject of this election: [**#] shares of common stock of Pliant Therapeutics, Inc., a Delaware corporation (the "***Company***").

3. **The property was transferred on: [•], 20___.**

4. **The property is subject to the following restrictions:** The shares are subject to forfeiture or repurchase at less than their fair market value if the undersigned does not continue to provide services for the Company for a designated period of time. The risk of forfeiture or repurchase lapses over a specified vesting period.

5. **The fair market value of the property at the time of transfer (determined without regard to any restriction other than a nonlapse restriction as defined in Treasury Regulation § 1.83-3(h)):** $[•] per share x **[**#] shares = $[•].

6. **For the property transferred, the undersigned paid:** $[•] per share x **[**#] shares = $[•].

7. The amount to include in gross income is: $[•].

The undersigned taxpayer will file this election with the Internal Revenue Service office with which taxpayer files his or her annual income tax return not later than 30 days after the date of transfer of the property. A copy of the election also will be furnished to the person for whom the services were performed and the transferee of the property. Additionally, the undersigned will include a copy of the election with his or her income tax return for the taxable year in which the property is transferred. The undersigned is the person performing the services in connection with which the property was transferred.

Very truly yours,

_____

[Name]

INSTRUCTIONS FOR FILING SECTION 83(b) ELECTION

Attached is a form of election under Section 83(b) of the Internal Revenue Code and an accompanying IRS cover letter. Please fill in your social security number and sign the election and cover letter, then proceed as follows:

(a) Make **four** copies of the completed Section 83(b) election form and one copy of the IRS cover letter.

(b) Send the original election form and cover letter, the copy of the cover letter, and a self-addressed stamped return envelope to the Internal Revenue Service Center where you would otherwise file your tax return. Even if an address for an Internal Revenue Service Center is already included in the forms below, it is your obligation to verify such address. This can be done by searching for the term "where to file" on www.irs.gov or by calling 1 (800) 829-1040. Sending the election via certified mail, requesting a return receipt, is also recommended.

(c) Deliver one copy of the completed election form to the Company.

(d) Attach one copy of the completed election form to your 20__ federal personal income tax return (Form 1040) when you file it for the year.

(e) Attach one copy of the completed election form to your 20__ state personal income tax return when you file it for the year (assuming you file a state income tax return).

(f) Retain one copy of the completed election form for your personal permanent records.

Please note that the election must be filed with the IRS within 30 days of the date of purchase of your restricted stock grant. Failure to file within that time will render the election void and you may recognize ordinary taxable income as your vesting restrictions lapse. The Company and its counsel cannot assume responsibility for failure to file the election in a timely manner under any circumstances.

[•], 20___

RETURN SERVICE REQUESTED

Department of the Treasury
Internal Revenue Service
[ADDRESS]

Re: **Election Under Section 83(b) of the Internal Revenue Code**

Dear Sir or Madam:

Enclosed please find an executed form of election under Section 83(b) of the Internal Revenue Code of 1986, as amended, filed with respect to an interest in Pliant Therapeutics, Inc.

Also enclosed is a copy of this letter and a stamped, self-addressed envelope. Please acknowledge receipt of these materials by marking the copy when received and returning it to the undersigned.

Thank you very much for your assistance.

Very truly yours,

Name

Enclosures

Exhibit 10.14

EXECUTION COPY

CONFIDENTIAL

COLLABORATION AND LICENSE AGREEMENT

BY AND BETWEEN

NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.

AND

PLIANT THERAPEUTICS, INC.

COLLABORATION AND LICENSE AGREEMENT

This COLLABORATION AND LICENSE AGREEMENT (this "**Agreement**") is made as of October 17, 2019 (the "**Execution Date**"), by and between Novartis Institutes for Biomedical Research, Inc., a corporation organized and existing under the laws of the State of Delaware, located at 250 Massachusetts Avenue, Cambridge, Massachusetts 02139 ("**NVS**") and Pliant Therapeutics, Inc., a corporation organized and existing under the laws of the State of Delaware, located at 260 Littlefield Avenue, South San Francisco, CA 94080 ("**Pliant**"). NVS and Pliant are each referred to individually as a "**Party**" and together as the "**Parties**."

RECITALS

WHEREAS, Pliant is a biotechnology company that has developed a preclinical stage small molecule selective $\alpha_v\beta_1$ integrin inhibitor;

WHEREAS, Pliant Controls Know-How and Patent Rights (each defined below) relating to an integrin discovery platform and seeks to collaborate with NVS to **identify [***];**

WHEREAS, NVS and its Affiliates possess expertise in discovering, developing, manufacturing, marketing, and selling pharmaceutical products worldwide;

WHEREAS, NVS desires to obtain from Pliant, and Pliant desires to grant to NVS, an exclusive license to Research, Develop, Manufacture and Commercialize the Licensed Compound and Licensed Product, and Selected Research Compounds and Research Products (each, as defined below), subject to the terms and conditions of this Agreement; and

WHEREAS, NVS desires to fund a research program that will include the identification and synthesis of novel small molecule [***].

NOW THEREFORE, the Parties agree as follows:

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions. Unless the context otherwise requires, the terms in this Agreement with initial letters capitalized shall have the meanings set forth below, or the meaning as designated in the indicated places throughout this Agreement.

"[***]" means [***].

"[***]" means [***].

"**$\alpha_v\beta_1$**" means [***]

"[***]" means [***].

"[***]" means [***].

"[***]" means [***].

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

"**Accounting Standards**" means, with respect to Pliant, United States Generally Accepted Accounting Principles ("**U.S. GAAP**"), and, with respect to NVS, the International Financial Reporting Standards ("**IFRS**"), in each case, as generally and consistently applied throughout such Party's organization. Each Party shall promptly notify the other in the event that it changes the Accounting Standards pursuant to which its records are maintained; provided, however, that each Party may only use internationally recognized accounting principles (*e.g.*, IFRS, U.S. GAAP, etc.).

"**Act**" means the United States Federal Food, Drug and Cosmetic Act, 21 U.S.C. §§ 301 et seq.

"**Active Ingredient**" means any therapeutically active material that provides pharmacological activity in a pharmaceutical product (excluding formulation components such as coatings, stabilizers, excipients or solvents, adjuvants, or controlled release technologies).

"**Adverse Event**" means any untoward medical occurrence in a Clinical Study subject or in a patient who is administered a Product, whether or not considered related to such Product, including any undesirable sign (including abnormal laboratory findings of clinical concern), symptom, or disease associated with the use of a Product.

"**Affiliate**" means, with respect to a Party, any Person that controls, is controlled by, or is under common control with that Party. For the purpose of this definition, "control" shall mean direct or indirect ownership of fifty percent (50%) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) or more of the equity interest in the case of any other type of legal entity, status as a general partner in any partnership, or any other arrangement whereby the entity or person controls or has the right to control the board of directors or equivalent governing body of a corporation or other entity, or the ability to cause the direction of the management or policies of a corporation or other entity. In the case of entities organized under the laws of certain countries, the maximum percentage ownership permitted by law for a foreign investor may be less than fifty percent (50%), and in such case such lower percentage shall be substituted in the preceding sentence; provided, that such foreign investor has the power to direct the management and policies of such entity.

"**Agreement**" has the meaning set forth in the first paragraph of this document.

"**Agreement Patent Action**" has the meaning set forth in Section 11.4(a).

"**Alliance Manager**" has the meaning set forth in Section 5.1.

"**ANDA**" means an Abbreviated New Drug Application in the United States for authorization to market the Product, as defined in the applicable laws and regulations and filed with the FDA.

"**Annual Net Sales**" mean Net Sales of Product(s) in a Calendar Year.

"**Anti-Corruption Laws**" shall mean all applicable laws, rules, and regulations regarding corruption and bribery, including the U.S. Foreign Corrupt Practices Act of 1977, as amended.

"**Antitrust Laws**" means any federal, state or foreign law, regulation or decree, including the HSR Act, designed to prohibit, restrict or regulate actions for the purpose or effect of monopolization or restraint of trade.

"**Applicable Law**" means any law, statute, ordinance, written rule or regulation, order, injunction, judgment, decree, constitution or treaty enacted, promulgated, issued, enforced or entered by any Governmental Authority applicable to any Party or such Party's businesses, properties or assets, as may be amended from time to time, including: (a) U.S. Export Control Laws; (b) Anti-Corruption Laws; (c) Trade Control Laws; and (d) Privacy and Data Security Laws.

"**Audited Party**" has the meaning set forth in Section 10.12(b).

"**Auditing Party**" has the meaning set forth in Section 10.12(b).

"**Auditor**" has the meaning set forth in Section 10.12(b).

"**Back-Up Compounds**" means those compounds, the structures of which are shown on Exhibit B.

"**Business Day**" means any day that is not a Saturday, Sunday or other day on which commercial banks are authorized or required to be closed, as the case may be, in Cambridge, Massachusetts, New York City, New York, San Francisco, California, or Basel, Switzerland.

"**Calendar Quarter**" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31, except that the first Calendar Quarter of the Term shall commence on the Effective Date and the last Calendar Quarter shall end on the last day of the Term.

"**Calendar Year**" means a period of twelve (12) consecutive calendar months ending on December 31, except that the first Calendar Year of the Term shall commence on the Effective Date and the last Calendar Year of the Term shall and end on the last day of the Term.

"**Candidate Target**" has the meaning set forth in Section 3.1.

"**cGCP**" means the then-current ethical, scientific and quality standards required by FDA for designing, conducting, recording and reporting trials that involve the participation of human subjects, as set forth in FDA regulations in 21 C.F.R. Parts 11, 50, 54, 56, and 312 and related FDA guidance documents, and by the International Conference on Harmonization E6: Good Clinical Practices Consolidated Guideline, or the equivalent Applicable Law of an applicable Regulatory Authority.

"**cGLP**" means the then-current good laboratory practice as required by the FDA under 21 C.F.R. Part 58 and all applicable FDA rules, regulations, orders and guidances, and the requirements with respect to current good laboratory practices prescribed by the European Community, the OECD (Organization for Economic Cooperation and Development Council) and the ICH Guidelines, or the equivalent Applicable Law of an applicable Regulatory Authority.

"**cGMP**" means the then-current good manufacturing practices as required by the FDA under provisions of 21 C.F.R. Parts 210 and 211 and all applicable FDA rules, regulations, orders and guidances, and the requirements with respect to current good manufacturing practices prescribed by the European Community under provisions of "The Rules Governing Medicinal Products in the European Community, Volume 4, Good Manufacturing Practices, Annex 13, Manufacture of Investigational Medicinal Products, July 2003," or the equivalent Applicable Law of an applicable Regulatory Authority.

"**Claims**" means all Third Party demands, claims, actions, suits, causes of action and proceedings.

"**Clinical Quality Assurance Agreement**" has the meaning set forth in Section 8.3.

"**Clinical Study**" means a Phase 1 Study, Phase 2 Study, Phase 3 Study, or other study (including a non-interventional study) in humans to obtain information regarding a product, including information relating to the safety, tolerability, pharmacological activity, pharmacokinetics, dose ranging or efficacy of the product.

"**Clinical Supply**" means, with respect to a Product, Product Manufactured for use in Development of such Product under this Agreement.

"**Clinical Supply Agreement**" has the meaning set forth in Section 8.3.

"**CMC**" means chemistry, manufacturing and controls.

"**CMO**" means a Third Party contract Manufacturing organization.

"**Code**" means the United States Bankruptcy Code, 11 U.S.C. §§ 101 et seq.

"**Combination Product**" means any single pharmaceutical product in finished form containing as active ingredients both a Product and one (1) or more other Active Ingredients that are not Licensed Compounds or Licensed Products, or Selected Research Compounds or Research Products.

"**Commercial Milestone Event**" has the meaning set forth in Section 10.4(a).

"**Commercial Milestone Payment**" has the meaning set forth in Section 10.4(a).

"**Commercialize**" means to market, promote, conduct Medical Affairs, distribute, import, export, offer to sell, use, or sell pharmaceutical products or conduct other commercialization activities, including activities directed to obtaining Pricing Approvals, as applicable, and "**Commercialization**" has the correlative meaning with respect to such activities.

"**Commercially Reasonable Efforts**" [***]

"**Committee**" means the Joint Steering Committee, the Joint Research Committee, the Joint Development Committee, or any other subcommittee established under Section 5.2(b), as applicable.

"**Compound**" means a Licensed Compound or Selected Research Compound.

"**Confidential Information**" means all Know-How and other proprietary information and data of a financial, commercial, business, operational or technical nature that is disclosed by or on behalf of a Party or any of its Affiliates or otherwise made available to the other Party or its Affiliates, whether made available orally, in writing or in electronic form, including information comprising or relating to concepts, discoveries, inventions, data, designs or formulae in relation to this Agreement or Compounds or Products. For clarity: (a) the terms and conditions of this Agreement shall constitute the Confidential Information of both Parties; and (b) all Product Data solely or jointly owned by NVS under Section 11.1(a), including the reports and content thereof provided as part of the Research Program, Sales & Royalty Reports, reports identifying Development Milestone Events, Commercial Milestone Events or Payments will be considered Confidential Information of NVS.

"**Control**" or "**Controlled**" means, subject to Section 11.8, with respect to any Know-How, Patents, other Intellectual Property Rights, or any proprietary or trade secret information, the legal authority or right (whether by ownership, license or otherwise) of a Party to grant a license or a sublicense of or under, or the right to access or use, such Know-How, Patents, or Intellectual Property Rights to another Person, or to otherwise disclose such proprietary or trade secret information to another Person, without breaching the terms of any agreement with a Third Party or misappropriating the proprietary or trade secret information of a Third Party.

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

"**Controlling Party**" has the meaning set forth in Section 11.4(c).

"**Cover**", "**Covering**" or "**Covered**" means, with respect to a Product, that, but for a license granted to a Person under a claim included in a Patent, the Development, Manufacture, or Commercialization of such Product in the Field in the Territory by such Person would infringe, or contribute to or induce the infringement of, such claim; it being understood that with respect to a Patent application, as if such claim was contained in an issued Patent.

"**Damages**" means all losses, liabilities, damages, taxes, costs and expenses of every kind and nature (including reasonable attorneys' fees).

"**Debarred Person**" means a Person that is: (a) debarred from or disqualified under the Act or any other governmental program; (b) on any of the FDA clinical investigator enforcement lists (including, the (i) Disqualified/Totally Restricted List, (ii) Restricted List and (iii) Adequate Assurances List); or (c) excluded from participation in any governmental healthcare program or other federal or state program, convicted of an offense under 42 U.S.C § 1320a-7, or otherwise deemed ineligible for participation in health care or federal or state programs.

"**Develop**" or "**Development**" means any and all clinical drug development activities conducted before or after obtaining Regulatory Approval that are reasonably related to or leading to the development, preparation and submission of data and information to a Regulatory Authority for the purpose of obtaining, supporting or expanding Regulatory Approval or to the appropriate body for obtaining, supporting or expanding Pricing Approval, including all activities related to pharmacokinetic profiling, design and conduct of Clinical Studies, regulatory affairs, statistical analysis, report writing, and Regulatory Filing creation and submission (including the services of outside advisors and consultants in connection therewith).

"**Development Budget**" has the meaning set forth in Section 6.1(c).

"**Development Candidate Selection**" means selection of a candidate Small Molecule Compound selective modulator of a Research Target for further Research and Development based on the achievement of the following, as reasonably determined by [***]: (a) [***]; (b) [***]; (c) [***]; (d) [***]; and (e) [***].

"**Development Candidate Selection Date**" means, on a Research Target-by-Research Target basis, the date on which a Research Compound directed to such Research Target has achieved Development Candidate Selection, as determined by [***].

"**Development Costs**" [***].

"**Development Manufacturing Costs**" [***].

"**Development Milestone Event**" has the meaning set forth in Section 10.3.

"**Development Milestone Payment**" has the meaning set forth in Section 10.3.

"**Development Plan**" has the meaning set forth in Section 6.1(b).

"**Development Reimbursement Cap**" has the meaning set forth in Section 6.1(e).

"**Development Transfer Date**" means, for a Licensed Product, the date during the Initial Development Period on which the JSC approves the protocol for the first Hepatic Impairment Study for such Licensed Product.

"**Dollar**" or "**Dollars**" or "**$**" means the legal tender of the United States of America.

"**Effective Date**" has the meaning set forth in Section 14.1.

"**EMA**" means the European Medicines Agency or any successor entity thereto.

"**Encumbrance**" means any claim, charge, equitable interest, hypothecation, lien, mortgage, pledge, assignment, option, license, power of sale, retention of title, right of pre-emption, right of first refusal, or security interest of any kind; provided, that, in the case of an option or license, such option or license will only be deemed an Encumbrance if it relates to a Target, Compound, or Product.

"**EU**" means the European Union, as its membership may be constituted from time to time, and any successor thereto; provided, that, for purposes of this Agreement, the EU will be deemed to include France, Germany, Italy, Spain, and the United Kingdom, irrespective of whether any such country leaves the European Union.

"**EU Regulatory Approval**" means receipt of MAA approval and Pricing Approval from [***].

"**European Commission**" means the executive of the EU that promotes its general interest.

"**Execution Date**" has the meaning set forth in the first paragraph of this Agreement.

"**Expert Committee**" has the meaning set forth in Section 18.1(b).

"**Expert Resolution**" means the process described in Section 18.1(b).

"**Experts Meeting**" has the meaning set forth in Section 18.1(b)(i).

"**FCPA**" means the U.S. Foreign Corrupt Practices Act (15 U.S.C. § 78dd-1, et seq.).

"**FDA**" means the United States Food and Drug Administration or any successor entity thereto.

"**Field**" means the diagnosis, prevention or treatment of any Indication in humans and animals.

"**FIH Study**" means a Clinical Study of an investigational product in healthy subjects with the primary objective of assessing the safety, tolerability, and pharmacokinetics of such product.

"**First Commercial Sale**" means, with respect to Product(s), and on a country-by-country basis, the first commercial sale in an arms'-length transaction of a Product to a Third Party by NVS, its Affiliates, or sublicensees in such country following receipt of applicable Regulatory Approval of such Product in such country. For clarity, the First Commercial Sale of a Product shall not include: (a) any distribution or other sale solely for patient assistance, named patient use, compassionate use, or test marketing programs or non-registrational studies or similar programs or studies where the Product is supplied without charge or at the actual Manufacturing cost thereof (without allocation of indirect costs or any markup); or (b) any sale by NVS to its Affiliates or sublicensees.

"**Force Majeure**" has the meaning set forth in Section 19.4.

"**FPFD**" means the date of the administration of the first dose of a Product to the first patient (or healthy subject, as relevant) while such healthy subject or volunteer is participating in a Clinical Study.

"**FTE**" means a full-time employee, or in the case of less than a full-time employee, a full-time equivalent employee year, for an appropriately qualified employee of a Party or its Affiliates, based on [***] person-hours per year. For clarity, indirect personnel (including support functions such as managerial, financial, legal or business development) shall not constitute FTEs.

"**FTE Costs**" means, for any period, the FTE Rate multiplied by the number of FTEs in such period.

"**FTE Rate**" means [***] Dollars ($[***]) per one (1) full FTE per full twelve (12)-month Calendar Year, which rate includes all direct and indirect costs of a Party's FTE, including personnel and travel expenses. Notwithstanding the foregoing, for any time period during the Term that is less than a full year, the above referenced rate will be proportionately reduced to reflect such portion of FTEs for such full Calendar Year.

"**Generic Product**" means, any product with the same Active Ingredient as a Product and that is sold by a Third Party that is not an Affiliate or sublicensee of NVS under an ANDA or NDA pursuant to the U.S. Federal Food Drug and Cosmetic Act (or a successor law), or pursuant to the applicable law of the relevant jurisdiction.

"**GLP Toxicology Study**" means a toxicology study: (a) in a species that satisfies applicable regulatory requirements; and (b) that employs applicable cGLP so as to meet the standard necessary for submission as part of an IND with the applicable Regulatory Authority.

"**Governing Law**" has the meaning set forth in Section 18.2.

"**Governmental Authority**" means any applicable government authority, court, tribunal, arbitrator, agency, department, legislative body, commission or other instrumentality of: (a) any government of any country or territory; (b) any nation, state, province, county, city or other political subdivision thereof; or (c) any supranational body.

"**Hepatic Impairment Study**" means a Clinical Study that compares the pharmacokinetic properties of the Licensed Product in patients with various degrees of liver dysfunction with such properties in normal subjects.

"**HSR Act**" means the Hart-Scott-Rodino Act of 1976.

"**Human Material**" has the meaning set forth in Section 3.9.

"**ICC Rules**" has the meaning set forth in Section 18.1(a)(i).

"**IND**" means an Investigational New Drug application in the U.S. filed with the FDA or the corresponding application for the investigation of a Product in any other country or group of countries, as defined in by Applicable Law and filed with the Regulatory Authority of a given country or group of countries.

"**Indemnification Claim Notice**" has the meaning set forth in Section 17.3(b).

"**Indemnified Party**" has the meaning set forth in Section 17.3(b).

"**Indemnifying Party**" has the meaning set forth in Section 17.3(b).

"**Indemnitee**" means a Pliant Indemnitee or an NVS Indemnitee, as the context requires.

"**Indication**" means any disease, condition or syndrome, or sign or symptom of, or associated with, a disease, condition or syndrome.

"**Indirect Taxes**" means value added taxes, sales taxes, consumption taxes and other similar taxes.

"Inhibit" means to [***]. An Inhibitor is a molecular entity that Inhibits.

"**Initial Candidate Target**" has the meaning set forth in Section 3.1.

"**Initial Development Period**" means the period of time beginning on the Effective Date and ending on the FPFD of the first Hepatic Impairment Study for the Licensed Product.

"**Insolvency Event**" means, in relation to either Party, any of the following: (a) that Party becomes Insolvent; (b) that Party shall commence any case, proceeding or other action (i) under any existing or future law of any jurisdiction relating to bankruptcy, insolvency, reorganization or relief of debtors, seeking to have an order for relief entered with respect to it, or seeking to adjudicate it as bankrupt or Insolvent, or seeking reorganization, arrangement, adjustment, winding-up, liquidation, dissolution, composition or other relief with respect to it or its debts, or (ii) seeking appointment of a receiver, trustee, custodian, conservator or other similar official for it or for all or any substantial part of its assets, or any such Party shall make a general assignment for the benefit of its creditors; (c) there shall be commenced against such Party any case, proceeding or other action of a nature referred to in clause (b) above that (i) results in the entry of an order for relief or any such adjudication or appointment, or (ii) remains undismissed, undischarged or unbonded for a period of sixty (60) days; (d) there shall be commenced against such Party any case, proceeding or other action seeking issuance of a warrant of attachment, execution, distraint or similar process against all or any substantial part of its assets that results in the entry of an order for any such relief that shall not have been vacated, discharged, or stayed or bonded pending appeal within sixty (60) days from the entry thereof; or (e) such Party shall take any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the acts set forth in clauses (b), (c) or (d) above.

"**Insolvent**" means, in relation to a Party: (a) that such Party shall generally not, or shall be unable to, or shall admit in writing its inability to, pay its debts as they become due; or (b) that is considered Insolvent according to Applicable Law.

"**Intellectual Property Rights**" means any Know-How, Patents, Trademarks, copyrights, trade secrets, and any other intellectual property rights however denominated throughout the world.

"**Interest Rate**" has the meaning set forth in Section 10.11(e).

"**Invention**" shall mean any process, method, composition of matter, article of manufacture, discovery, improvement, or finding, including Know-How, that is first conceived and/or first reduced to practice, in the course of activities performed pursuant to this Agreement (whether patentable or not).

"**Invoice**" has the meaning set forth in Section 10.1.

"**IP Committee**" means the committee established pursuant to Section 11.2.

"**Joint Compound and Product Patent**" has the meaning set forth in Section 11.2(c).

"**Joint Development Committee**" or "**JDC**" means the committee established as set forth in Section 5.4(a).

"**Joint Inventions**" mean all Inventions jointly owned by the Parties under this Agreement.

"**Joint Patents**" mean all Patents claiming patentable Joint Inventions.

"**Joint Product Patents**" mean all Joint Patents that Cover the Development, Manufacture, or Commercialization of a Product.

"**Joint Research Committee**" or "**JRC**" means the committee established as set forth in Section 5.3(a).

"**Joint Steering Committee**" or "**JSC**" means the committee established as set forth in Section 5.2(a).

"**Joint Technology**" means Joint Patents and Joint Inventions.

"**Know-How**" means all technical information, know-how and data and Material, including inventions (whether patentable or not), discoveries, trade secrets, specifications, instructions, processes, formulae, expertise and other technology applicable to compounds, formulations, compositions, products or to their manufacture, development, registration, use or commercialization or methods of assaying or testing them or processes for their manufacture, formulations containing them, compositions incorporating or comprising them and including all biological, chemical, pharmacological, biochemical, toxicological, pharmaceutical, physical and analytical, safety, quality control, manufacturing, preclinical and clinical data, instructions, processes, formulae, expertise and information, Regulatory Filings, Regulatory Materials and copies thereof, relevant to the development, manufacture, use or commercialization of or which may be useful in studying, testing, development, production or formulation of products, or intermediates for the synthesis thereof.

"**Licensed Compound**" means the active pharmaceutical ingredients, [***] (the "**Licensed Compound Target**"); provided that Licensed Compound shall not include [***].

"**Licensed Product**" means a product incorporating or comprising one or more Licensed Compounds in finished dosage pharmaceutical form, including, in each case, all formulations and modes of administration thereof.

"**Loss of Market Exclusivity**" means, with respect to any Product or Combination Product comprising a Product, as applicable, in any country, that all of the following apply: (a) the Net Sales of such Product or Combination Product in that country in any Calendar Year are less than [***] percent ([***]%) of the Net Sales of such Product or Combination Product in that country in the Calendar Year [***]; (b) the decline in such sales is attributable in material part to the marketing or sale in such country of one or more Generic Product(s) of such Product or Combination Product by one or more Third Parties; and (c) [***].

"**MAA**" means an application for the authorization to market Product(s) in any country or group of countries outside the United States, as defined by Applicable Law and filed with the Regulatory Authority of a given country or group of countries.

"**Major EU Countries**" means France, Germany, Italy, Spain and the United Kingdom.

"**Manufacture**" or "**Manufacturing**" means activities directed to producing, manufacturing, processing, sourcing of materials, filling, finishing, packaging, labeling, quality assurance testing and release, shipping and storage of a Product. For clarity, "manufacture" and "manufacturing" have the corresponding meanings with respect to any pharmaceutical product other than a Product.

"**Material**" means any tangible compositions of matter, articles of manufacture, assays, chemical, biological or physical materials, in vivo models, cell based assays (excluding Pliant's [***]), research tools, and other similar materials, including media composition.

"**Material Receiving Party**" has the meaning set forth in Section 6.1(h)(i).

"**Medical Affairs**" means activities conducted by a Party's or its Affiliate's medical affairs department, including communications with key opinion leaders, medical education, symposia, advisory boards (to the extent related to medical affairs or clinical guidance), activities performed in connection with patient registries, and other medical programs and communications, including educational grants, research grants (including conducting investigator-initiated studies), and charitable donations to the extent related to medical affairs excluding all other activities that do not involve the promotion, marketing, sale, or other Commercialization of Products and are not conducted by a Party's medical affairs departments.

"**Modulate Selectively**" means, solely for purposes of Section 4.4, with respect to a compound that modulates a Candidate Target or Research Target, as applicable, that the compound [***].

"**NDA**" means a New Drug Application in the United States for authorization to market the Product, as defined in the applicable laws and regulations and filed with the FDA.

"**Net Sales**" means [***].

"**Non-Withholding Party**" has the meaning set forth in Section 10.11(d).

"**NVS**" has the meaning set forth in the first paragraph of this Agreement.

"**NVS Indemnitees**" has the meaning set forth in Section 17.1.

"**NVS Invention Patents**" has the meaning set forth in Section 11.3(b).

"**NVS Quality Requirements**" means the NVS or any Regulatory Authorities' quality requirements with respect to the Manufacture of Products or Compounds for use in Clinical Studies.

"**NVS Technology**" means all Patents and Know-How Controlled by NVS or its Affiliates, including NVS's interest in Product Data, that are necessary to conduct the Research Plan Activities for a Research Target or are necessary to conduct the Development activities set forth in the Development Plan for a Licensed Compound or Licensed Product, except that NVS Technology shall not include any Joint Technology.

"**NVS Termination Technology**" means, with respect to a Terminated Compound or Terminated Product, those Patents and Know-How Controlled by NVS or its Affiliates that [***] for such Terminated Compound or Terminated Product.

"**NVS Termination Trademark**" means, with respect to a Terminated Product, the Product Mark Controlled by NVS or its Affiliates under which such Terminated Product was being Commercialized as of the termination date for such Terminated Product.

"**Operational Team**" has the meaning set forth in Section 5.5.

"**Out-of-Pocket Costs**" means, with respect to certain activities performed pursuant to this Agreement, direct expenses paid or payable by either Party or its Affiliates to Third Parties and specifically identifiable and incurred to conduct such activities for a Compound or Product in the Territory, including payments to contract personnel (including contractors, consultants and subcontractors), in each case, pursuant to the applicable Development Plan or Research Plan, and provided that such expenses are been recorded as income statement items in accordance with such Party's Accounting Standards and will not include any pre-paid amounts, capital expenditures, or items intended to be covered by the FTE Rate.

"**Party**" or "**Parties**" has the meaning set forth in the first paragraph of this Agreement.

"**Patents**" means all patents and patent applications, including all divisionals, continuations, substitutions, continuations-in-part, re-examinations, reissues, additions, renewals, extensions, registrations, including patent term extensions and supplemental protection certificates and the like, utility models, design patents and the like of any of the foregoing in any country.

"**Person**" means any individual, partnership, limited liability company, firm, corporation, association, trust, unincorporated organization or other entity, including a Governmental Authority.

"**PET Ligand**" means a [***][***].

"**Phase 1 Study**" means a clinical study of an investigational product in patients or healthy volunteers with the primary objective of characterizing its safety, tolerability, and pharmacokinetics and identifying a recommended dose and regimen for future studies. The investigational product can be administered to patients or healthy volunteers as a single agent or in combination with other investigational or marketed agents and shall be deemed commenced when the first patient or healthy volunteer in such study has received his or her initial dose of a product.

"**Phase 2 Study**" means a Phase 2a Study or a Phase 2b Study.

"**Phase 2a Study**" means a clinical study of an investigational product in patients with the primary objective of characterizing its activity in a specific disease state as well as generating more detailed safety, tolerability, pharmacodynamics and pharmacokinetics information. The investigational product can be administered to patients as a single agent or in combination with other investigational or marketed agents, may include one or multiple doses and shall be deemed commenced when the first patient in such study has received his or her initial dose of a product.

"**Phase 2b Study**" means a phase 2b study carried out prior to the initiation of pivotal Phase 3 Studies that is intended to be the definitive dose range finding study in patients with efficacy as a primary endpoint, as well as safety, initiated after completion of a Phase I Clinical Study (or phase 2a Clinical Study, if performed), that will evaluate the dose-dependent effectiveness of a pharmaceutical product for a particular indication or indications in patients with the disease or condition under study, as well as to collect further safety data to assess the risks associated with the pharmaceutical product, and further pharmacokinetic and pharmacodynamic data. The investigational product can be administered to patients as a single agent or in combination with other investigational or marketed agents and shall be deemed commenced when the first patient in such study has received his or her initial dose of a product.

"**Phase 3 Study**" means a clinical study of an investigational product in patients the protocol of which incorporates accepted endpoints for confirmation of statistical significance of efficacy and safety with the aim of obtaining Regulatory Approval in any country as described in 21 C.F.R. § 312.21(c), or a comparable clinical study prescribed by the relevant Regulatory Authority in a country other than the United States. The investigational product can be administered to patients as a single agent or in combination with other investigational or marketed agents and shall be deemed commenced when the first patient in such study has received his or her initial dose of a product. For clarity, Phase 3 Studies include clinical studies of approved products for use in Indications for which such product has not yet received Regulatory Approval.

"**Pliant**" has the meaning set forth in the first paragraph of this Agreement.

"**Pliant Indemnitees**" has the meaning set forth in Section 17.2.

"**Pliant Know-How**" means any Know-How Controlled by Pliant or any of its Affiliates as of the Effective Date or thereafter during the Term of this Agreement that is reasonably necessary or reasonably useful for the Research, Development, Manufacture, or Commercialization of the Compounds and Products in the Field or otherwise transferred or provided to NVS under Sections 3.7(b), 4.6 and 8.5, and includes Pliant's interest in any Product Data, except that Pliant Know-How shall not include any Know-How that is a Joint Invention or that relates to Pliant's [***].

"**Pliant Manufacturing Know-How**" has the meaning set forth in Section 8.5.

"**Pliant Patents**" means: (a) the Patents identified on Exhibit C; and (b) any other Patents Controlled by Pliant or any of its Affiliates as of the Effective Date or thereafter during the Term that claim or otherwise Cover the Research, Development, Manufacture, or Commercialization of the Compounds and Products in the Field, except that Pliant Patents shall not include any Joint Patents or Patents solely claiming Know-How that relates to Pliant's [***].

"**Pliant Technology**" means the Pliant Know-How and the Pliant Patents.

"**Pliant Third Party Obligations**" has the meaning set forth in Section 10.7(b).

"**PMDA**" means the Japanese Pharmaceuticals and Medical Devices Agency, or any successor entity thereto.

"**Pricing Approval**" means any approval, agreement, determination, or decision establishing prices that can be charged to consumers for a pharmaceutical product or that shall be reimbursed by Governmental Authorities for a pharmaceutical product, in each case, in a country where Governmental Authorities approve or determine pricing for pharmaceutical products for reimbursement or otherwise.

"**Priority Review Voucher**" means a priority review voucher issued by the United States Department of Health and Human Services that entitles the holder of such voucher to Priority Review of a single human drug application submitted under Section 505(b)(1) of the Act or Section 351(a) of the

United States Public Health Service Act, as further defined in Section 529(a)(2) of the Act (21 U.S.C. § 360ff(a)(2)).

"**Privacy and Data Security Laws**" means all applicable privacy, security and data protection laws, rules, regulations, and guidelines with respect to privacy, security and data protection including the collection, processing, storage, protection and disclosure of Sensitive Information.

"**Product**" means a Research Product or Licensed Product.

"**Product Data**" has the meaning set forth in Section 11.1(a).

"**Product Infringement**" has the meaning set forth in Section 11.5.

"**Product Marks**" has the meaning set forth in Section 11.7.

"**Prosecution and Maintenance**" means, with regard to a particular Patent, the preparation, filing, prosecution and maintenance of such Patent in any jurisdiction, as well as the conduct of re-examinations, reviews, reissues and the like with respect to that Patent, together with the conduct of interferences, the defense of oppositions, oppositions, post-grant reviews, inter partes reviews, and other similar proceedings with respect to that Patent and further including Patent management and litigation strategy. For clarity, Prosecution and Maintenance does not include instituting post-grant reviews or inter partes review with respect to Patents of Third Parties.

"**Prosecuting and Maintaining Party**" has the meaning set forth in Section 11.3(c).

"**Provider**" has the meaning set forth in Section 3.9.

"**Purpose**" has the meaning set forth in Section 6.1(h)(i).

"**Regulatory Approval**" means, with respect to a Product in any country or jurisdiction, all approvals (including where required in order to market the Product, any Pricing Approval), registrations, licenses or authorizations from a Regulatory Authority in a country or other jurisdiction that are necessary to market and sell such Product in such country or jurisdiction.

"**Regulatory Authority**" means any Governmental Authority responsible for granting Regulatory Approvals for Products, including the FDA, EMA, European Commission, PMDA, and any corresponding national or regional regulatory authorities.

"Regulatory Exclusivity" means any rights or protections which are recognized, afforded or granted by the FDA or any other Regulatory Authority in any country or region of the Territory pursuant to Applicable Laws of such country or region, in association with the marketing authorization of the Product, providing the Product: (a) a period of marketing exclusivity, during which a Regulatory Authority recognizing, affording or granting such marketing exclusivity will refrain from either reviewing or approving a marketing authorization application or similar regulatory submission, submitted by a Third Party seeking to market a Generic Product of such Product, or (b) a period of data exclusivity, during which a Third Party seeking to market a Generic Product of such Product is precluded from either referencing or relying upon, without an express right of reference from the dossier holder, the Product's clinical dossier or relying on previous Regulatory Authority findings of safety or effectiveness with respect to such Product to support the submission, review or approval of a Marketing Authorization Application or similar regulatory submission before the applicable Regulatory Authority.

"**Regulatory Filings**" means, with respect to a Product, any application or submission to a Regulatory Authority of any appropriate regulatory application, and shall include any submission to a regulatory advisory board, MAA, and any supplement or amendment thereto. For the avoidance of doubt, Regulatory Filings shall include any NDA or the corresponding application in any other country or group of countries.

"**Regulatory Lead Party**" means the Party allocated primarily responsible for all regulatory matters relating to a Licensed Product, including all Regulatory Filings and related Regulatory Materials in accordance with Section 7.1(a).

"**Regulatory Materials**" means any communication, correspondence, or other filings made to, received from or otherwise conducted with a Regulatory Authority related to Developing, Manufacturing, or otherwise Commercializing a pharmaceutical product in a particular country or jurisdiction, other than Regulatory Filings.

"**Reimbursement Cap**" has the meaning set forth in Section 3.6(a).

"**Related Compounds**" means, with respect to a Compound, [***] that the relevant Compound has with respect to its molecular target (for Related Compounds of Compounds that selectively modulate a given Research Target, selective modulation of such Research Target and for Related Compounds of Licensed Compounds or Back-Up Compounds, selective Inhibition of $\alpha_v\beta_1$).

"**Research**" or "**Researching**" means activities, other than Development, related to target validation, the design, discovery, generation, identification, profiling, characterization, production, process development, cell line development, pre-clinical development or non-clinical or pre-clinical studies of drug candidates and products, including such non-clinical studies and other material Development activities to be undertaken to generate data sufficient to enable the filing of an IND.

"**Research Budget**" has the meaning set forth in Section 3.2.

"**Research Compound**" has the meaning set forth in Section 3.2[***].

"**Research Costs**" has the meaning set forth in Section 3.6(a).

"**Research Plan**" has the meaning set forth in Section 3.2.

"**Research Plan Activities**" has the meaning set forth in Section 3.2.

"**Research Product**" means a product Researched or Developed under this Agreement incorporating or comprising one or more Selected Research Compounds in finished dosage pharmaceutical form, including, in each case, all formulations and modes of administration thereof.

"**Research Program**" has the meaning set forth in Section 2.1.

"**Research Results**" mean all tangible Material, and all material data, results, and research records relating to a Candidate Target or Research Target, or compounds that modulate such Candidate Target or Research Target, generated in connection with a Research Program.

"**Research Target**" has the meaning set forth in Section 3.1.

"**Research Term**" means the period commencing upon the Effective Date and ending, unless extended pursuant to Section 3.3, three (3) years after the Effective Date.

"**Royalty Term**" has the meaning set forth in Section 10.6(a).

"**Sales & Royalty Report**" means a written report or reports showing each of: (a) the Net Sales of each Product in the Territory, on a country-by-country basis, during the reporting period by NVS and its Affiliates and sublicensees; and (b) the royalties payable, in United States Dollars, which shall have accrued hereunder with respect to such Net Sales.

"**Selected Research Compound**" has the meaning set forth in Section 3.2(b), and includes all corresponding Related Compounds[***].

"**Selection Date**" has the meaning set forth in Section 3.2(b).

"**Senior Officers**" means, for NVS, [***], and for Pliant, [***].

"**Sensitive Information**" means personally identifiable information, which information may include names, address, other contact information, financial account information, social security number, date of birth, passwords, protected health information, biometrics, personal identification numbers and codes and/or other information or data that is protected by Applicable Laws and/or can be used for identity theft.

"Small Molecule Compound" means any compound having a molecular weight of less than [***].

"Target" means any Research Target or Licensed Compound Target.

"**Target Validation**" means compelling biological validation from pre-clinical in vitro and in vivo studies supporting that a molecular target being evaluated under the Research Program (a) [***]; (b) [***]; and (c) [***]; in each case of (a)-(c), as determined by [***].

"**Target Validation Activities**" means the specific activities to be performed by each Party to determine the Target Validation of a Candidate Target pursuant to a Research Plan.

"**Target Validation Fee**" has the meaning set forth in Section 10.2.

"**Term**" has the meaning set forth in Section 15.1.

"**Terminated Compound**" shall mean any Compounds that bind specifically to, and thereby selectively modulate, a Terminated Target.

"**Terminated Product**" shall mean any Products that bind specifically to, and thereby selectively modulate, a Terminated Target.

"**Terminated Research Target**" shall mean any Research Target pursuant to which this Agreement is terminated under Section 15.2(a)(i) or 15.2(c).

"**Terminated Target**" shall mean any Target pursuant to which this Agreement is terminated under Section 15.2(a)(i) or 15.2(c).

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

"**Territory**" means all countries and territories of the world.

"**Third Party**" means any Person other than a Party or an Affiliate of a Party.

"**Third Party Infringement**" has the meaning set forth in Section 11.4(a).

"**Third Party License**" means a written agreement between a Party or its Affiliates and a Third Party to license or acquire Third Party Intellectual Property Rights relevant to Targets, Compounds, or Products, including, for clarity, any such agreement entered into as a result of settlement of any claims for infringement of Third Party Intellectual Property Rights.

"**Trade Control Laws**" mean all statutory and regulatory requirements related to export controls, economic sanctions, trade embargoes, imports of goods, and payment of custom duties.

"**Trademarks**" mean all registered and unregistered trademarks, service marks, trade dress, trade names, logos, insignias, symbols, designs, and all other indicia of ownership, and combinations thereof.

"**Transfer Record**" has the meaning set forth in Section 6.1(h)(i).

"**Transferring Party**" has the meaning set forth in Section 6.1(h)(i).

"**United States**" or "**U.S.**" means the United States of America, its territories and possessions.

"**Upstream Party**" means any Third Party that is a party to a Third Party License.

"**U.S. Export Control Laws**" mean shall mean all applicable U.S. laws and regulations relating to the export or re-export of commodities, technologies or services, including the Export Controls Act of 2018, 22 U.S.C. §§ 2751 et seq., the International Emergency Economic Powers Act, 50 U.S.C. §§ 1701-1706, the Trading with the Enemy Act, 50 U.S.C. §§ 1 et seq., the Arms Export Control Act, 22 U.S.C. §§ 2778-2779, the International Boycott Provisions of Section 999 of the U.S. Internal Revenue Code of 1986, the U.S. Department of Commerce's Export Administration Regulations, the U.S. Department of State's International Traffic in Arms Regulations, and the economic sanctions programs administered by the U.S. Department of Treasury's Office of Foreign Assets Controls.

"**Valid Claim**" means a claim of a Patent that: (a) has not been rejected, revoked or held to be invalid or unenforceable by a court or other authority of competent jurisdiction, from which no appeal can be further taken; or (b) has not been finally abandoned, disclaimed or admitted to be invalid or unenforceable through reissue or disclaimer. In order to be a Valid Claim, any claim being prosecuted in a pending patent application must be prosecuted in good faith and not have been pending for more than [***] years from the earliest date from which such application claims the priority or benefit of the first utility patent application (or equivalent concept in any such country) in the patent application family in the country in question, in which case it will cease to be considered a Valid Claim until the patent issues and recites said claim (from and after which time the same would be deemed a Valid Claim).

"**Withholding Party**" has the meaning set forth in Section 10.11(d).

1.2 Interpretation. Unless the context of this Agreement otherwise requires:

(a) the terms "includes" and "including" shall mean respectively includes and including without limitation;

(b) a statute or statutory instrument or any of their provisions shall be construed as a reference to that statute or statutory instrument or such provision as the same may have been or may from time to time hereafter be amended or re-enacted;

(c) words denoting the singular shall include the plural and vice versa, and words denoting any gender shall include all genders;

(d) the Exhibits and other attachments form part of the operative provisions of this Agreement and references to this Agreement shall, unless the context otherwise requires, include references to the Exhibits and attachments;

(e) the headings in this Agreement are for information and convenience only and shall not be considered in the interpretation of this Agreement;

(f) "days" refers to calendar days;

(g) the terms "hereof," "herein," "hereby," and derivative or similar words refer to this entire Agreement;

(h) general words shall not be given a restrictive interpretation by reason of their being preceded or followed by words indicating a particular class of acts, matters or things;

(i) the words "shall" and "will" have the same meaning; and

(j) the Parties agree that the terms and conditions of this Agreement are the result of negotiations between the Parties and that this Agreement will not be construed in favor of or against any Party by reason of the extent to which any Party participated in the preparation of this Agreement.

2. OVERVIEW OF COLLABORATION

2.1 Overview of Research Programs. During the Research Term, and in accordance with the terms and conditions of this Agreement, the Parties will collaborate on up to three (3) separate Research programs (each, a "**Research Program**"), under which the Parties will validate certain [***] as Research Targets (defined below), each under a Research Program, and identify and synthesize potential Research Compounds (defined below) designed to modulate selectively each such Research Target in accordance with the applicable Research Plan (defined below), with the aim of achieving [***]. Each Research Target and Research Compound will be Researched according to a separate Research Program, and NVS will have the sole right to Research, Develop, and Commercialize Selected Research Compounds and any corresponding Research Product following the Development Candidate Selection Date. NVS may, in its sole discretion, and at its cost and expense, elect to take forward, subject to Section 6.1(d) and Article 9, any and all Selected Research Compounds and Research Products into Development and for Commercialization.

2.2 Overview of Licensed Product. During the Initial Development Period, and in accordance with the terms and conditions of this Agreement, the Parties will collaborate to Develop the Licensed Product in accordance with the Development Plan for such Licensed Product, including where applicable, conducting any necessary Research in order to submit the applicable Regulatory Filings to enable FPFD of the first Phase 1 Study for such Licensed Product. NVS will thereafter have the sole right, subject to Section 6.1(d) and Article 9, to conduct and be responsible for conducting, at its cost and expense, further Research, Development and Commercialization of such Licensed Product.

2.3 Overview of Manufacturing Related Activities. During the Term, and in accordance with the terms and conditions of this Agreement and the applicable Clinical Supply Agreement and associated Clinical Quality Assurance Agreement, Pliant will Manufacture Licensed Products for NVS for use in certain Clinical Studies.

3. RESEARCH PROGRAMS

3.1 Research Target Validation. As of the Effective Date, the [***] [***] are deemed the initial candidate targets (each, a "**Candidate Target**"). Pursuant to the Research Plans for each Candidate Target, Pliant will use Commercially Reasonable Efforts to conduct Target Validation Activities for each Candidate Target in accordance with a Research Plan. The first Candidate Target for which Pliant will engage in Target Validation Activities is [***] (the "**Initial Candidate Target**"). The Parties will, jointly through the JRC, determine the subsequent order of Candidate Targets for which Pliant will initiate Target Validation Activities pursuant to a Research Plan; *provided that*, in the event of disagreement between the Parties, the order of Candidate Targets for which Target Validation Activities are initiated will be [***]. Within [***] days of the achievement of Target Validation for a given Candidate Target, NVS will provide written notice to Pliant of such fact, such Candidate Target will be deemed a "**Research Target**" and NVS will become obligated to pay the Target Validation Fee in accordance with Section 10.2. NVS will have the right to designate up to three (3) Candidate Targets as Research Targets and, for clarity, the corresponding Target Validation Fee shall be payable only once for each such Research Target, for up to three (3) Research Targets. Upon the determination by NVS that Target Validation for any given Candidate Target is not achievable, NVS will notify Pliant in writing that NVS is rejecting such Candidate Target as a Research Target at or before the next JSC meeting or within [***] months after making such determination, whichever is earlier. On a Candidate Target-by-Candidate Target basis, upon the first to occur for such Candidate Target of (i) expiration or termination of the Research Term, (ii) the date upon which NVS notifies Pliant in writing that NVS is rejecting such Candidate Target as a potential Research Target or (iii) the date upon which three (3) Candidate Targets, other than such Candidate Target, have been designated as a Research Target, such Candidate Target will no longer be subject to this Agreement.

3.2 Research Plans; Selected Research Compounds.

(a) On a Candidate Target-by-Candidate Target basis, prior to the initiation of Target Validation Activities for such Candidate Target, the Parties will agree on a written plan setting forth the Research Plan Activities (defined below) to be performed by the Parties in the course of the Research Program for such Candidate Target up to Development Candidate Selection (each, a "**Research Plan**"). The initial Research Plan for the Initial Candidate Target is attached hereto as Exhibit D. Within a reasonable time prior to the initiation of Target Validation Activities for the next and subsequent Candidate Targets, but at least [***] days prior to the initiation of Research activities therefor, the Parties will jointly develop, through the JRC, a Research Plan for each such Candidate Target for approval by the JSC. Each Research Plan will include (i) the Target Validation Activities and criteria required to establish Target Validation for such Candidate Target; (ii) the specific activities to be performed by each Party to (A) identify candidate compounds from [***] that bind specifically to, and thereby selectively modulate, such Research Target and (B) Research ([***]) such candidate compounds (each such candidate compound identified and/or Researched pursuant to this Agreement that binds specifically to, and thereby selectively modulates, such Research Target, a "**Research Compound**") until the Development Candidate Selection Date for such Research Compound, including the Manufacture of research grade supply of such Research Compound and the technical and scientific criteria of such Research Compound (together with the Target Validation Activities, the "**Research Plan Activities**"); (iii) the anticipated number of FTEs to be dedicated by Pliant and its Affiliates to perform the Research Plan Activities for the corresponding Research Target; and (iv) a budget setting out by Calendar Year the estimated FTE Costs and Out-of-Pocket Costs (including for Manufacturing related activities) to be incurred by Pliant and its Affiliates in the conduct of the Research Plan Activities for such Research Target, [***] (each, a "**Research Budget**"). Each Research Budget will include detailed line item entries for each Research Plan Activity to be conducted under such Research Plan setting forth the costs directly related to the performance of such activity [***]. On a Research Target-by-Research Target basis, from time to time during the Research Term, but prior to the Development Candidate Selection Date for a Research Compound selected for such Research Target, [***] the Parties through the JRC will jointly develop and submit, or either Party through the JRC may propose for submission, updates or amendments to the Research Plan for the JSC's review and approval. Each Research Plan shall be consistent with the terms of this Agreement.

(b) At any time during the Research Term, but on a Research Target-by-Research Target basis, not later than [***] days following the completion of the first IND-enabling GLP Toxicology Study for a Research Compound that achieves Development Candidate Selection with respect to a given Research Target (the "**Selection Date**"), NVS may select in its sole discretion, by written notice to Pliant, up to [***] Research Compounds for such Research Target for further Research and Development (each a "**Selected Research Compound**"). Each Research Compound not designated by NVS as a Selected Research Compound will, after the Selection Date with respect to the relevant Research Target, no longer be eligible for designation as a Selected Research Compound for such Research Target or subject to the terms of this Agreement.

3.3 Conduct of Research Activities. During the Research Term and subject to the JSC's and JRC's review and, as applicable, approval of each Research Plan, the Parties will use Commercially Reasonable Efforts to perform (themselves or through their Affiliates or subject to Section 4.2, permitted subcontractors) the Research Plan Activities in accordance with the applicable Research Plan until the Development Candidate Selection Date for a Research Compound for such Research Target. NVS will have the option, in its sole discretion, to extend the Research Term for [***] period (the original Research Term plus such [***] period, the "**Extended Research Term**"). In the event that NVS desires to exercise such option, it shall provide Pliant with written notice to that effect at least [***] days prior to the end of the Research Term. If a Party anticipates that material Research Plan Activities under the applicable Research Plan will not have been completed by the end of the Extended Research Term, such Party may so notify the other Party at least [***] days prior to the end of the Extended Research Term, in which case the Parties will discuss in good faith the process for completing such Research Plan Activities and the extension of the Research Term for a further [***] period following the Extended Research Term (a "**Second Extension**"). For clarity, neither Party will be obligated to agree to a Second Extension, and if the Parties do not agree in writing to a Second Extension prior to the date upon which the Extended Research Term would otherwise expire, the Research Term shall expire upon the date of expiration of the Extended Research Term. In performing its respective Research Plan Activities, each Party: (a) will conduct such activities in a good scientific manner, in compliance with all Applicable Law in all material respects, including, where applicable, cGMP, cGLP, cGCP, and current international regulatory standards; and (b) will not employ or use any Debarred Person. [***]

3.4 Research Records. Each Party will maintain, and cause its Affiliates and their respective employees and subcontractors to maintain, records and laboratory notebooks of its Research Plan Activities in sufficient detail and in a good scientific manner appropriate for scientific, regulatory and intellectual property protection purposes, which records and laboratory notebooks shall: (a) be segregated from other Research activities not performed under this Agreement; (b) be complete and accurate in all material respects; and (c) fully and properly reflect all work done, data and developments made, and results achieved. NVS will have the right to audit and request a copy of such records of Pliant and its Affiliates and their respective employees and subcontractors from time to time during the Term. Prior to exercising its right to audit such records, NVS, in good faith, will consider whether such audit could be conducted by a Third Party sufficiently experienced in the relevant field. In the event that NVS conducts such audit using a Third Party, NVS shall cause such Third Party to be bound by obligations of confidentiality with respect to such records no less stringent than those set forth in Sections 12.1, 12.2 and 12.3. For the avoidance of doubt, NVS will have the final decision with respect to whether to conduct such audit under this Section 3.4 itself or using a Third Party.

3.5 Research Reports and Materials.

(a) **General**. Each Party will keep the other Party reasonably informed regarding the status, progress, and results of its Research Plan Activities for each Research Program, including a review of results (including Manufacturing related campaign reports) and progress against timelines in such Research Plan through regularly scheduled JRC (and, if applicable, Operational Team) meetings.

(b) **Interim Reports**. On a Calendar Quarterly basis the Parties will jointly create and submit to the JRC (and, if applicable, the Operational Team) for its review and discussion, a written update, in a form agreed to by the JRC for such updates, that includes: (i) a summary of the Research Plan Activities completed during the most recently completed Calendar Quarter; (ii) prior to the Development Candidate Selection Date, a copy of all results and data generated during such period related to each Research Target; and (iii) both Parties' progress against the timeline and Research Budget set forth in each Research Plan, with appropriate documentation to substantiate all such activities and results.

(c) **Final Report**. Each Party shall provide the other Party with a final written report within [***] days after the completion or earlier termination of each Research Plan, which report will summarize the activities undertaken and all accomplishments and deliverables achieved as specified under such Research Plan and contain a copy of all Research Results generated by or on behalf of such Party in the performance of such Research Plan.

(d) **Research Results**. [***] within [***] days following the earlier of the earlier termination or completion of each Research Plan for a given Research Target, [***], provided that [***]. Subject to Section 4.1 and Section 4.4, (i) NVS will have the right to use all Research Results for all purposes, and (ii) Pliant will have the right to use all Research Results generated by Pliant or on its behalf outside the scope of the exclusive licenses granted to NVS pursuant to Sections 4.1(a) and 4.1(b) to research and identify compounds that bind specifically to, and thereby selectively modulate the [***] solely for internal research and development purposes, and with respect to any other [***], for all purposes..

3.6 Research Support and Payment.

(a) **Research Support**. During the Research Term, on a Research Program-by-Research Program basis, NVS will be responsible for those reasonable and actual documented FTE Costs and Out-of-Pocket Costs, in each case, incurred by or on behalf of Pliant in accordance with the then-current JSC-approved Research Plan, [***] (collectively, the "**Research Costs**"), [***]; provided, however, that NVS will not be responsible for any FTE Costs or Out-of-Pocket Costs incurred by or on behalf of Pliant in the performance of any Research Plan Activities (including those associated with Manufacturing), in excess of [***]. For clarity, Pliant shall not have any obligation to perform Research Plan Activities for which the costs would be incurred in excess of the Reimbursement Cap.

(b) **Research Payment Mechanism**. No later than [***] Business Days after the conclusion of each Calendar Quarter, Pliant will provide to NVS a report of the Research Costs actually incurred in performing its Research Plan Activities under each Research Plan during the most recently completed Calendar Quarter, which will include a breakdown of FTE Costs and Out-of-Pocket Costs actually incurred by or on behalf of Pliant during such Calendar Quarter, and a comparison of such costs to the applicable Research Budget. Within [***] Business Days after receipt of such report, NVS will provide Pliant with written notice of any disputed amount in such report, after which Pliant will provide a written invoice for the amount due in accordance with this Section 3.6 for such Calendar Quarter. NVS will pay to Pliant the undisputed amounts set forth in any such invoice within [***] days of NVS' receipt of such invoice. If owed, any disputed amounts will be paid within [***] Business Days after the date on which the Parties, using good faith efforts, resolve the dispute. The first report and invoice provided by Pliant to NVS after the Effective Date will include costs of performing Research activities incurred before the Effective Date, in accordance with the work plan and budget mutually approved by both Parties on September 27, 2019.

3.7 Research Products and Pliant Know-How Transfer.

(a) **Research Products.** NVS will have the right, in its sole discretion, to Research, Develop, Manufacture, and Commercialize any and all Selected Research Compounds and Research Products, subject to Sections 3.3 and 6.2(a) and Article 9. For clarity, a Research Target will cease to remain a Research Target under this Agreement, and all Selected Research Compounds and Research Products will cease to remain the same under this Agreement, if NVS elects in writing, pursuant to Section 15.2(c), not to further Research or Develop any Selected Research Compound or Research Product for such Research Target.

(b) **Pliant Know-How Transfer**. From time to time during the Term, Pliant will, promptly upon NVS's request and for no additional compensation, provide to NVS, in a commercially reasonable format, (A) during the Research Term, [***]; and (B) following the Research Term, [***], in each of (A) and (B) for NVS to perform its obligations under this Agreement and to practice the licenses granted to NVS hereunder, including with respect to the Research, Development, Commercialization, and Manufacturing of, and obtaining or maintaining Regulatory Approval or Pricing Approval for, Selected Research Compounds and Research Products as set forth in this Agreement. For clarity, in no event shall Pliant be obligated to transfer to NVS any Know-How that relates to Pliant's [***].

3.8 Animal Research Compliance. To the extent a Research Program involves the use of animals, the provisions of this Section 3.8 will apply. All such animals will be cared for, used, and disposed of in conformity with the highest legal and ethical standards of animal testing as defined by the U.S. Animal Welfare Act (P.L. 89-544, as amended) and the guidelines prescribed in DHHS Publication No. 72-23 (NIH), "Guide for the Care and Use of Laboratory Animals" (1996 edition or succeeding revised editions. The relevant environment, housing, management, veterinary care, and physical plant used in connection with such animals in a Research Program will be appropriate for type(s) of animal(s) and the nature of the Research Program. An institutional animal care and use committee, as that term is contemplated by the U.S. Animal Welfare Act (or its equivalent worldwide) must approve the activities described in a Research Plan prior to commencement of the relevant Research Program and will provide oversight of animal care, use, housing, management and disposal for the duration of the Research Program. In no circumstances will any such animals be used as food for humans or animals. If specific instructions for animal use, care, handling, or disposal are provided by NVS, Pliant shall use good faith efforts to comply with such instructions in connection with the relevant Research Program. NVS will have the right to review and audit the relevant facilities of Pliant and related records to confirm compliance with this Section 3.8 not more than [***] during Pliant's normal business hours to ensure conformity with the provisions of this Section 3.8.

3.9 Human Material. Pliant represents and warrants (a) that it has complied, or shall comply, with all applicable laws, guidelines and regulations relating to the collection and/or use of human primary cell lines, human tissue, human clinical isolates or similar human-derived materials that have been or are to be collected in and/or used in a Research Program (**"Human Material"**) and (b) that it has obtained, or

shall obtain, all necessary approvals, consents, and/or authorization required by law for the collection, use and/or transfer of such Human Material as contemplated by this Agreement. Pliant shall provide documentation of such approvals, consents, and authorizations upon NVS' request. Pliant further represents and warrants that such Human Material may be used as contemplated in this Agreement without any obligations to the individuals or entities ("**Providers**") other than required by Applicable Law who contributed the Human Material, including any obligations of compensation to such Providers for any purposes, including, without limitation, any obligations of compensation to such Providers or any other Third Party for the intellectual property associated with the Human Material or the commercial use thereof for any purposes.

3.10 Terminated Research Targets. If a Party terminates this Agreement with respect to a Research Target pursuant to Section 15.2(a)(i) or Section 15.2(c), each Party may research, develop, manufacture and commercialize anywhere in the Territory products that modulate such Terminated Research Target outside the scope of this Agreement, provided that, for clarity, the foregoing shall not be deemed to grant to NVS the right to use, and NVS agrees it shall not use, any Pliant Know-How transferred to NVS or other Confidential Information of Pliant to conduct such activities, and, subject to Section 15.4, the foregoing shall not be deemed to grant Pliant the right to use, and Pliant agrees that it shall not use any NVS Know-How transferred to Pliant or other Confidential Information of NVS to conduct such activities.

4. LICENSES

4.1 License Grants.

(a) **Licensed Products**. Subject to the terms and conditions of this Agreement, Pliant hereby grants to NVS and its Affiliates (i) an exclusive (even as to Pliant and its Affiliates), transferrable (pursuant to Section 19.1), sublicensable (pursuant to Section 4.1(f)) license, under the Pliant Technology and Joint Technology to Commercialize Licensed Products in the Field in the Territory; and (ii) a co-exclusive (with Pliant and its Affiliates), transferrable (pursuant to Section 19.1), sublicensable (pursuant to Section 4.1(f)) license, under the Pliant Technology and Joint Technology to Research, Develop, and Manufacture Licensed Compounds and Licensed Products in the Field in the Territory; which Research, Development, and Manufacturing license will become exclusive to NVS with respect to a Licensed Compound or Licensed Product upon the FPFD in the first Hepatic Impairment Study for such Licensed Product. For clarity, such co-exclusivity retains for Pliant solely the right to conduct: (x) those Research and Development activities under the applicable Development Plan; and (y) those Manufacturing activities in accordance with the applicable Clinical Supply Agreement, in each case of (x) and (y), undertaken pursuant to the express terms of this Agreement.

(b) **Research Products**. Subject to the terms and conditions of this Agreement, Pliant hereby grants to NVS and its Affiliates (i) an exclusive (even as to Pliant and its Affiliates), transferrable (pursuant to Section 19.1), sublicensable (pursuant to Section 4.1(f)) license under the Pliant Technology and Joint Technology to Develop, Manufacture and Commercialize Selected Research Compounds and Research Products in the Field in the Territory; and (ii) a co-exclusive (with Pliant and its Affiliates), transferrable (pursuant to Section 19.1), sublicensable (pursuant to Section 4.1(f)) license under the Pliant Technology and Joint Technology, to Research the Candidate Targets, Research Targets, and to Research the Research Compounds or Selected Research Compounds (as applicable) for each Research Target; which co-exclusive license shall become exclusive to NVS, solely with respect to Selected Research Compounds, effective as of the Development Candidate Selection Date for such Research Target. For clarity, such co-exclusivity retains for Pliant solely the right to conduct: (x) those Research Plan Activities under the applicable Research Plan; and (y) those Manufacturing activities in accordance with the applicable Research Plan, in each case of (x) and (y), undertaken pursuant to the express terms of this Agreement.

(c) **By NVS**. Subject to the terms and conditions of this Agreement, NVS hereby grants to Pliant and its Affiliates, a non-exclusive, non-sublicensable right under the NVS Technology and Joint Technology to (i) during the Research Term, to Research the Research Compounds and Selected Research Compounds for each Research Target; and (ii) during the Term, to Develop Licensed Products in accordance with the applicable Development Plan for such Licensed Product.

(d) **PET Ligand.** Subject to the terms and conditions of this Agreement, Pliant hereby grants to NVS and its Affiliates, a non-exclusive, fully paid up, sublicensable (pursuant to Section 4.1(f)) license under the Pliant Technology to use the PET Ligand to Research and Develop Licensed Compounds and Licensed Products. For the avoidance of doubt, the license granted under this Section 4.1(d) does not give NVS or its Affiliates the right to Commercialize, either itself of through a Third Party, the PET Ligand.

(e) **Retained Rights**. Notwithstanding the licenses granted to NVS in Sections 4.1(a), (b), and (d), Pliant will retain the right, subject to Sections 4.4, 12.1-12.3, and 13.3, to use Product Data that it generates, whether solely or jointly with NVS, solely for internal research and development purposes with respect to the [***] and for all purposes with respect to any other [***], outside the scope of this Agreement.

(f) **Sublicense Rights.** NVS may sublicense the rights granted to it by Pliant under Section 4.1(b) of this Agreement [***]; provided that the foregoing shall not limit NVS's ability to grant sublicenses to independent contractors performing activities on NVS's behalf pursuant to Section 4.2. NVS may sublicense the rights granted to it by Pliant under Section 4.1(a) at any time at its sole discretion. NVS will ensure that all permitted sublicenses granted under this Section 4.1(f) are consistent with the terms of this Agreement and will remain responsible for any action or failure to act by its sublicensees to whom NVS' obligations under this Agreement have been sublicensed, and which action or failure to act would constitute a breach of this Agreement if such action or failure to act were committed by NVS. For clarity, distributors and wholesalers shall not be considered sublicensees. NVS may exercise its rights and perform its rights and obligations under this Agreement itself or through any of its Affiliates provided that it remains responsible for the performance of such Affiliates as if such activities of such Affiliates were activities of NVS under this Agreement. Pliant may not sublicense the rights granted to it by NVS under this Agreement without first obtaining, in each case, NVS's prior written consent and complying with the terms of any such consent except as expressly set forth in Section 4.2.

4.2 Subcontractors. Each Party may engage subcontractors to perform any obligations assigned to it under this Agreement; provided, that: (a) Pliant shall obtain NVS' prior written consent before subcontracting any such obligations to any subcontractor that is not either engaged by Pliant as of the Effective Date or included in an approved Research Plan or Development Plan; (b) the subcontracting Party remains fully responsible for the work allocated to, and payment to, such subcontractors to the same extent it would if it had done such work itself; (c) each contract between a Party and a subcontractor is consistent with the provisions of this Agreement, but only as it pertains to the obligations being performed by such subcontractor pursuant to this Agreement, including (i) obligations of confidentiality and non-use applicable to Confidential Information that are at least as stringent as those set forth in Article 12, and (ii) obligations of assignment of all Inventions and other Intellectual Property Rights developed in the course of performing any such work under this Agreement to the subcontracting Party and obligations of cooperation to execute any documents to confirm or perfect such assignment; and (d) the subcontracting Party remains at all times fully liable for all acts or omissions of such subcontractor.

4.3 Third Party Licenses. All rights licensed to a Party from a Third Party and sublicensed to the other Party under this Agreement will be subject to and subordinate to the terms of the applicable Third Party License to the extent such terms applies to a sublicensee of such Third Party Intellectual Property Rights. Each Party will comply with the terms of any such Third Party License; provided, that: (a) a Party shall not be obligated to comply with any such Third Party License until the relevant terms of any such Third Party License that apply to a Party's exercise of such rights have been fully and accurately disclosed to such Party; and (b) NVS shall not be subject to any Third Party Licenses entered into by Pliant or its Affiliates except as permitted under Sections 16.4(b) and 16.4(c).

4.4 Exclusivity.

(a) **Research Targets**.

(i) During the period beginning on the Effective Date and ending, on a Candidate Target-by-Candidate Target basis, on the date such Candidate Target is no longer deemed a Candidate Target pursuant to Section 3.1, or on a Research Target-by-Research Target basis, on the Selection Date with respect to such Research Target, as applicable, neither Party or its Affiliates will, and each Party will cause its licensees, and sublicensees not to, alone or with or through any Third Parties (including through licensing any Third Party), Research anywhere in the Territory the modulation of any Candidate Target or Research Target, or Research, Develop, Manufacture, or Commercialize anywhere in the Territory any compounds or products that Modulate Selectively or are intended to Modulate Selectively a Research Target, other than performing Target Validation Activities or Researching Research Compounds, each in accordance with the terms and conditions of this Agreement[***]. Notwithstanding the foregoing, [***].

(ii) During the Term, Pliant and its Affiliates will not, and will cause its licensees, and sublicensees not to, alone or with or through any Third Parties (including through licensing any Third Party), Research, Develop, Manufacture, or Commercialize anywhere in the Territory any [***] other than Researching Research Compounds and Selected Research Compounds (as applicable) in accordance with the terms and conditions of this Agreement.

(b) **Licensed Compounds and Licensed Products**. During the Term Pliant and its Affiliates will not, and will cause its licensees, and sublicensees not to, alone or with or through any Third Parties (including through licensing any Third Party), Research, Develop, Manufacture, or Commercialize anywhere in the Territory (i) a Licensed Compound or Licensed Product; [***] in each case other than Researching, Developing, or Manufacturing Licensed Compounds or Licensed Products in accordance with the terms and conditions of this Agreement.

(c) **IPF Exclusivity**. During the Term, NVS and its Affiliates will not, and will cause its licensees, and sublicensees not to, alone or with or through any third Parties (including through licensing any Third Party), Research, Develop, Manufacture, or Commercialize anywhere in the Territory a Licensed Compound or Licensed Product for the treatment, diagnosis, or prophylaxis of idiopathic pulmonary fibrosis (IPF) other than pursuant to this Agreement.

4.5 No Other Rights. Each Party expressly reserves and retains all Patents, Know-How, or other Intellectual Property Rights not expressly granted herein, and no right or license under any Patents, Know-How, or other Intellectual Property Rights of either Party is granted or shall be granted by implication.

4.6 Pliant Know-How Transfer. Within [***] days of the Effective Date, and for no additional compensation, Pliant will deliver to NVS copies of: (a) Pliant Know-How related to the Licensed Compound and Licensed Product(s); and (b) any other Pliant Know-How that is necessary or reasonably useful for the Development, Manufacture, or Commercialization of Licensed Compounds or Licensed Products in accordance with this Agreement, in each case of (a) and (b), as set forth on Exhibit E. Thereafter, on a continuing basis during the Term, Pliant shall promptly, and for no additional compensation, and at a minimum no less frequently than [***] through the JSC, JDC, or JRC, as applicable, disclose to NVS all additional Pliant Know-How related to any Product that comes into existence since the prior disclosure, and will provide reasonable assistance to NVS in connection with understanding and using all such Pliant Know-How for purposes consistent with the licenses and rights granted to NVS hereunder. For clarity, in no event shall Pliant be obligated to transfer to NVS any Know-How that relates to Pliant's [***].

5. GOVERNANCE

5.1 Alliance Managers. Promptly following the Effective Date, each Party shall designate an individual to facilitate communication and coordination of the Parties' activities under this Agreement and to provide support and guidance to the JSC (each, an "**Alliance Manager**"). Each Alliance Manager may also serve as a representative of its respective Party on one (1) or more Committees other than the JSC.

5.2 Joint Steering Committee.

(a) **Purpose; Formation**. Within [***] days of the Effective Date, the Parties shall establish a joint steering committee (the "**JSC**"). The JSC shall monitor, make decisions, and provide strategic oversight of the activities under this Agreement and facilitate communications between the Parties with respect to the Research, Development, and Commercialization of the Compounds and Products.

(b) **Specific Responsibilities**. In addition to providing general oversight with respect to the Parties' activities under this Agreement, the JSC shall in particular have the following responsibilities: (i) prior to the Development Candidate Selection Date, on a Research Target-by-Research Target basis, review and approve each Research Plan (including the Research Budget) for a Research Target, and any amendments thereto (including amending the FTEs provided for under any such Research Plan); (ii) following the Development Candidate Selection Date, on a Research Target-by-Research Target basis, review and discuss the Research and Development of Research Products; (iii) solely during the Initial Development Period, review and approve the Development Plan (including the associated budgets), and any amendments thereto (including amending the FTEs provided for under any such Licensed Product Development Plan); (iv) following the Initial Development Period, review and discuss the Development of Licensed Products; (v) review and discuss the regulatory strategy for the Licensed Products; (vi) review, discuss and coordinate the Parties' scientific presentation and publication strategy with respect to the Licensed Products; (vii) facilitate the flow of information with respect to the Development and Commercialization of the Products; (viii) receive and discuss reports from the other Committees; (ix) provide guidance to the other Committees on all significant strategic issues that fall within the scope of such Committees; (x) establish such additional joint subcommittees as it deems necessary to achieve the objectives and intent of this Agreement; (xi) resolve disputes for which it is responsible as provided in this Agreement; and (xii) perform such other functions as expressly provided in this Agreement.

5.3 Joint Research Committee.

(a) **Purpose; Formation**. Within [***] days of the Effective Date, the Parties shall establish a committee to oversee the Research Programs (the "**JRC**").

(b) **Specific Responsibilities.** On a Research Target-by-Research Target basis, prior to the Development Candidate Selection Date for a Research Compound for such Research Target, the JRC shall be responsible for: (i) discussing, preparing, and recommending for submission to the JSC for approval, each Research Plan (including the Research Budget) and all amendments thereto (including any amendments to the FTEs provided under such Research Plan); (ii) overseeing and directing the Research Plan Activities; (iii) reviewing and discussing all reports describing the Research Plan Activities and the Research Results; and (iv) performing such other functions as may be expressly provided in this Agreement.

5.4 Joint Development Committee.

(a) **Purpose; Formation.** Within [***] days of the Effective Date, the Parties shall establish a committee to oversee and coordinate the Development activities of the Parties with respect to each Licensed Product during the Initial Development Period (the "**JDC**").

(b) **Specific Responsibilities.** The JDC shall in particular have the following responsibilities, in each case, solely during the Initial Development Period: (i) reviewing and recommending for approval by the JSC, the Development Plan and any amendments to the Development Plan for Licensed Products (including the associated Development Budget and amending the FTEs provided for under such Development Plan); (ii) reviewing and monitoring the Parties' Development activities and progress against the Development Plan, including facilitating discussions between the Parties regarding the Development of such Licensed Products; (iii) reviewing and discussing Regulatory Filings and all Regulatory Materials for any Licensed Product; (iv) overseeing Manufacturing of Licensed Products used in Development activities, including discussing any potential supply issues, interruptions, the outcome of any Regulatory Authority inspection of Manufacturing facilities used by or on behalf of Pliant, and any remedial actions required if any as a result of such inspection; (v) discussing the Development reports; and (vi) performing such other functions as expressly provided in this Agreement.

5.5 Operational Teams. From time-to-time, the JSC, JRC, or JDC may establish and delegate specific matters or duties within its responsibilities to directed teams (each, an "**Operational Team**"), the composition, operation, and responsibilities of which will be determined by the applicable establishing Committee. Operational Teams may be established on an *ad hoc* basis for purposes of a specific activity or on such other basis as the applicable establishing Committee may determine. Each Operational Team will report to, and its activities will be subject to the oversight of, the applicable establishing Committee and no Operational Team's authority may exceed that specified for the applicable establishing Committee. Any disagreement between the representatives of the Parties on any Operational Teams will be referred to the applicable establishing Committee for resolution in accordance with Section 5.7.

5.6 Committee Representatives and Meetings.

(a) **Committee Representatives**. Each Party shall initially appoint [***] representatives to each Committee. Each Committee may change its size from time to time; provided, that the JSC and JDC shall each consist at all times of an equal number of representatives of each of Pliant and NVS. Each Committee representative shall have appropriate knowledge and expertise and sufficient seniority (including for at least one such Committee representative of a Party, budgetary authority, as applicable) within the applicable Party to make decisions (if any) arising within the scope of the applicable Committee's responsibilities. Each Party may replace its representatives on any Committee upon written notice to the other Party. Each Party shall appoint one (1) of its representatives on each Committee to act as a co-chairperson of such Committee. The responsibility for running each meeting of each Committee shall alternate between the co-chairpersons of such Committee from meeting-to-meeting, with [***]'s co-chairperson running the first meeting of each Committee. The co-chairpersons of each Committee shall jointly prepare and circulate agendas to such Committee's representatives before each such Committee meeting and shall direct the preparation of reasonably detailed documentation for each such Committee meeting, which shall be approved by the Committee's co-chairpersons and circulated to Committee representatives within [***] days of such meeting.

(b) **Non-Committee Representatives**. Each Party may from time to time invite a reasonable number of participants, in addition to its representatives, to attend Committee meetings in a non-voting capacity; provided, that if either Party intends to have any Third Party attend such a meeting, such Party shall obtain the other Party's prior written consent for such Third Party to attend such meeting, which consent shall not be unreasonably withheld, conditioned, or delayed. Such Party shall ensure that each such Third Party is bound by confidentiality and non-use obligations no less protective of the Parties' Confidential Information than those set forth in this Agreement and invention assignment obligations consistent with Section 11.1.

(c) **Meetings**. Each Committee shall hold meetings at such times as it elects to do so, but at least [***] unless otherwise agreed by the Parties; provided, that the JSC shall hold its first meeting no later than [***] days after the Effective Date. Meetings of any Committee may be held in person or by audio or video teleconference; provided, that unless otherwise agreed by the Parties, at least [***] shall be held in person. The Alliance Managers may attend meetings of the JSC in a non-voting capacity (unless such Alliance Manager also serves as a representative to such Committee). Each Party shall be responsible for all of its own costs and expenses of participating in any Committee meetings. No action taken at any meeting of a Committee shall be effective unless [***] of each Party are participating in such meeting.

(d) **Dissolution.** Each Committee will continue to exist until the earlier of completion of such Committee's obligations under this Agreement or mutual agreement of the Parties to disband such Committee; provided, that following the dissolution of the JSC, the JSC may, upon the Parties' agreement, continue to meet on a Calendar Quarterly basis (or more or less frequently, if mutually agreed by the Parties) solely to serve as a forum for sharing and discussing information.

5.7 Resolution of Committee Disputes.

(a) All decisions of each Committee shall be made by unanimous vote, with each Party's representatives collectively having one (1) vote.

(b) If, after reasonable discussion and good-faith consideration of each Party's view on a particular matter before any Committee other than the JSC and within the scope of its authority, the representatives of the Parties cannot reach an agreement as to such matter within [***] Business Days after such matter was brought to such Committee for resolution, such disagreement shall be referred to the JSC for resolution. If, after reasonable discussion and good-faith consideration of each Party's view on a particular matter before the JSC and within the scope of its authority, the representatives of the Parties on the JSC cannot reach an agreement as to such matter within [***] Business Days after such matter was brought to the JSC for resolution or after such matter has been referred to the JSC from another Committee, either Party may elect to submit such issue to the Parties' Senior Officers in accordance with Section 5.7(c).

(c) If a Party makes an election under Section 5.7(b) to refer a matter to the Senior Officers, the JSC will submit in writing the respective positions of the Parties to their respective Senior Officers. Such Senior Officers will use good faith efforts, in compliance with this Section 5.7(c), to resolve promptly such matter, which good faith efforts will include at least one meeting between such Senior Officers within [***] days after the JSC's submission of such matter to them. If the Senior Officers are unable to reach unanimous agreement on any such matter within [***] days of such matter being referred to them, the matter will be decided in accordance with Section 5.7(d).

(d) If the Senior Officers cannot in good faith resolve such matter within [***] days after such matter has been referred to them, then subject to Section 5.7(e), then [***] with respect to any unresolved dispute concerning matters within the decision-making authority of the JSC as set forth in this Article 5, except that [***] authority to [***].

(e) Notwithstanding anything herein to the contrary, each Committee shall have only the powers assigned expressly to it in this Article 5 and elsewhere in this Agreement, and no Committee shall have any power to amend, modify or waive compliance with this Agreement, or to impose additional financial obligations on a Party beyond those provided in this Agreement. For clarity, Pliant shall not be obligated to undertake any Research Plan Activities that exceed the Reimbursement Cap, unless NVS agrees in writing to provide additional funding over the Reimbursement Cap to reimburse Pliant for such additional Research Plan Activities. In furtherance thereof, each Party shall retain the rights, powers and discretion granted to it under this Agreement, and matters that are specified in this Article 5 only to be reviewed and discussed (as opposed to approved) do not require any agreement or decision by either Party and are not subject to the voting and decision-making procedures set forth in this Section 5.7.

6. DEVELOPMENT

6.1 Licensed Products.

(a) **Responsibility**. During the Initial Development Period and subject to the oversight of the JSC and the JDC, the Parties will collaborate on Development of the Licensed Compounds and Licensed Product in accordance with this Agreement and the Development Plan (and associated Development Budget) for such Licensed Product, including conducting any necessary Research to support IND filing for such Licensed Product. After the Initial Development Period, subject to review by the JSC, NVS shall be solely responsible for the Development of the Licensed Compounds and Licensed Product throughout the Territory, at its own cost and expense, including, without limitation, the (i) performance of Clinical Studies on Licensed Products, (ii) subject to Section 8.1(b), manufacture and supply of Licensed Compounds and Licensed Products for use in Development, and (iii) preparation and submission of any and all Regulatory Materials for the Licensed Products in the Territory.

(b) **Development Plans**. The Parties have attached as Exhibit F an initial Development plan for the Licensed Product (a "**Development Plan**"). Each update to the Development Plan will set forth all activities that are necessary or useful to be undertaken to achieve Regulatory Approval for such Licensed Product, and will allocate responsibility for the performance of each such activity to one or both of the Parties, which allocation shall provide for Pliant being responsible for conducting GLP Toxicology Studies and GMP synthesis of Licensed Product, as well as Manufacture of Licensed Product, subject to a Clinical Supply Agreement and associated Clinical Quality Assurance Agreement, sufficient for the conduct of the FIH Study, and NVS being responsible for conducting Clinical Studies after the Initial Development Period. The Development activities set forth in the Development Plan will at all times be designed to be in compliance with all Applicable Law and in accordance with professional and ethical standards customary in the pharmaceutical industry. The Development Plan will be consistent with the terms of this Agreement. From time to time, [***] (i) during the Initial Development Period, the Parties will jointly develop and submit, or either Party may propose for submission, updates or amendments to the Development Plan for the Licensed Product for the JDC's review and recommendation to the JSC for approval; and (ii) after the Initial Development Period, NVS will develop and submit updates or amendments to the Development Plan to the JSC for review and discussion purposes.

(c) **Development Budgets**. During the Initial Development Period, the Development Plan for the Licensed Product will contain a rolling budget covering Development Costs and Development Manufacturing Costs for the FIH Study associated with the anticipated Development activities for the Licensed Product to be performed during [***], and a forecast of the budget of Development Costs and Development Manufacturing Costs for [***] through completion of all Development activities set forth in any such Development Plan (each, a "**Development Budget**"). The Development Budget will be reviewed and approved by the JDC and JSC (i) [***] at the same time as the Development Plan update or amendment as specified under Section 6.1(b) based on: (A) the Parties' good faith estimation of the anticipated Development activities to be conducted during the relevant [***] period; and (B) information prepared by the Parties in good faith for their own internal planning processes relating to anticipated Development activities for the Licensed Product; or (ii) whenever the estimated total Development Costs within the Development Budget are reasonably expected to increase by at least [***] percent ([***]%) relative to the Development Budget, whether as a result of any amendments to the Development Plan, or increases in costs for the Development activities already planned. Once approved by the JSC, the [***] of such [***] period of each relevant Development Budget shall become JSC approved Development Costs. Following the Initial Development Period, NVS will not have the obligation to provide Pliant or the JSC with a budget for continuing Development Costs or updates thereto.

(d) **Conduct of Development Activities**. NVS and Pliant will each use Commercially Reasonable Efforts to perform their respective Development activities in accordance with the Development Plan. In performing its respective Development activities, each Party: (i) will conduct such activities in a good scientific manner, in compliance with all Applicable Law in all material respects, including, where applicable, cGMP, cGLP, cGCP, and current international regulatory standards; and (ii) will not employ or use any Debarred Person. After the Initial Development Period, NVS will use Commercially Reasonable Efforts to Develop at least one Licensed Product.

(e) **Development Costs**. With respect to the Licensed Product, during the Initial Development Period, NVS will be responsible for one hundred percent (100%) of all Development Costs set forth in the JSC approved Development Plan. During the Initial Development Period commencing upon the first Calendar Quarter immediately following JSC approval of the Development Plan for the Licensed Product and continuing thereafter so long as Pliant incurs Development Costs under this Agreement, Pliant will, within [***] Business Days of such Calendar Quarter submit to NVS a report setting forth the Development Costs it incurred in such Calendar Quarter with respect to Licensed Products as approved by the JSC. Each such report will specify in reasonable detail all such costs, and, if requested by NVS, any such invoices or other supporting documentation for any Out-of-Pocket Costs paid or payable to a Third Party or with respect to which documentation is otherwise reasonably requested will be promptly provided, and in the case of the report provided for the fourth Calendar Quarter of a given Calendar Year, shall additionally include an assessment of actual aggregate costs incurred for the preceding four (4) Calendar Quarters compared with the JSC approved Development Budget for the same Calendar Year. NVS will reimburse the Development Costs incurred by Pliant as detailed in such report within [***] days of receipt of Pliant's invoice for such amount, which invoice will be delivered by Pliant to NVS no sooner than [***] days following NVS' receipt of the report from Pliant; *provided*, *however*, that in the event of any disagreement with respect to the calculation of such reimbursable Development Costs, any undisputed portion of such reimbursement payment will be paid in accordance with the foregoing timetable and the remaining, disputed portion will be paid within [***] Business Days after the date on which the Parties, using good faith efforts, resolve the dispute. Notwithstanding the foregoing, during the Initial Development Period, NVS will not be obligated to reimburse Pliant for any Development Costs for Licensed Products in excess of [***] dollars ($[***]) (the "**Development Reimbursement Cap**"). Following the Initial Development Period, NVS will be solely responsible for, at its sole cost and expense, Developing the Licensed Product.

(f) **Records**. Each Party will maintain, and cause its Affiliates and their respective employees and permitted subcontractors to maintain, scientific records, in sufficient detail and in a good scientific manner appropriate for scientific, regulatory, and intellectual property purposes and in compliance with cGLP with respect to activities that require cGLP compliance to be submitted in Regulatory Filings (including INDs and NDAs), which records will: (i) be segregated from other activities not performed under this Agreement; and (ii) be complete, accurate, and fully and accurately reflect all work done, data and developments made, and results achieved in the performance of the Development activities. NVS will have the right to audit and request a copy of such records in Pliant and its Affiliates and their respective employees and subcontractors from time to time during the Term.

(g) **Reports**. During the Initial Development Period, each Party will: (i) provide to the JDC, on a Calendar Quarterly basis, or more frequently as reasonably requested by the JDC, an update regarding any Development activities conducted by or on behalf of such Party; and (ii) promptly share with the other Party all material developments and information that it comes to possess relating to the Development of each Licensed Product, including: (1) safety concerns; and (2) study reports and data generated from Clinical Studies. Following the Initial Development Period, NVS will provide to the JSC, on an annual basis, an update of its ongoing Development Activities, including any material Development and regulatory activities for each Licensed Product under Development by or on behalf of NVS over the prior Calendar Year, and any planned future Development and regulatory activities with respect to each Licensed Product under Development by or on behalf of NVS, including those activities it anticipates to initiate or have initiated for the following Calendar Year.

(h) **Material Transfer**.

(i) To facilitate the activities contemplated by this Agreement, either Party (referred to in this Section 6.1(h) as the "**Transferring Party**") may provide to the other Party (referred to in this Section 6.1(h) as the "**Material Receiving Party**") certain Materials owned by or licensed to the Transferring Party for use by the Material Receiving Party. All transfers of such Materials by the Transferring Party to the Material Receiving Party will be documented in writing (the "**Transfer Record**"), which Transfer Record will set forth the type and name of the Material transferred, the amount of Material transferred, the date of the transfer of such Material and the purpose for which such Material may be used by the Material Receiving Party (the "**Purpose**"). Such Purpose may be in furtherance of the activities contemplated by this Agreement, in each case only as such activities are licensed and not subject to restrictive covenants under this Agreement, or alternatively such Purpose may be narrower due to restrictions and obligations imposed by Third parties on the use of such Materials. The Parties also agree not to impose any more restrictive uses on the Materials transferred between one another than is necessary to comply with such restrictions and obligations imposed by Third Parties on the use of such Materials.

(ii) Except as otherwise provided under this Agreement, all such Materials delivered by the Transferring Party to the Material Receiving Party shall remain the sole property of the Transferring Party, and shall only be used by the Material Receiving Party for the Purpose. The Material Receiving Party shall cause the Materials to not be used by, delivered to or used for the benefit of any Third Party without the prior written consent of the Transferring Party. Further, except as otherwise provided under this Agreement, the Material Receiving Party shall not use the Materials in research or testing involving human subjects, unless expressly agreed by the Transferring Party in writing and where such research and testing is undertaken in accordance with Applicable Law. In addition, the transfer of any Materials hereunder for use in human subjects may only be done in a manner compliant with a duly executed quality agreement between the Parties.

(iii) The Material Receiving Party assumes all liability for losses that may arise from its use, storage, or disposal of the Materials. The transferring Party will not be liable to the Material

Receiving Party for any loss or Claim made by the Material Receiving Party or made against the Material Receiving Party by any Third Party, due to or arising from the use of the Materials, except when cause by the gross negligence or willful misconduct of the Transferring Party, or as otherwise expressly provided for under this Agreement.

(iv) Upon expiration or termination of this Agreement with respect to a particular Target and subject to Section 15.4, the Material Receiving Party will return or destroy (as instructed by the Transferring Party) any proprietary Materials transferred pursuant to this Section 6.1(h) relating to such Target (or all Targets in the event of expiration of the Agreement).

6.2 Research Compounds and Products.

(a) **Responsibility and Costs**. On a Research Target-by-Research Target Basis, NVS will be solely responsible for conducting, using Commercially Reasonable Efforts and at its cost and expense, [***].

(b) **Reports**. NVS will provide to the JSC, on an annual basis for its review and discussion, a high level report summarizing: (i) any material Development and regulatory activities for each Selected Research Compound and/or Research Product under Development by or on behalf of NVS over the prior Calendar Year; and (ii) any planned future Development and regulatory activities, including those activities it anticipates to initiate or have initiated for the following Calendar Year.

(c) **Additional Support**. On a Research Target-by-Research Target Basis, following the Development Candidate Selection Date for such Research Target, NVS may request that Pliant reasonably make available for consultation certain of its employees engaged in the Research Plan Activities in connection with NVS's Development of Selected Research Compounds and Research Products. Subject to internal capacity restraints, Pliant will reasonably cooperate with NVS to provide: (i) up to [***] hours of consultation without charge to NVS; and (ii) any additional hours of consultation as NVS may reasonably request, for which NVS will pay Pliant a rate of [***] per hour of such consultation services.

7. REGULATORY

7.1 Licensed Products.

(a) **Responsibility for Regulatory Matters**.

(i) **Regulatory Lead Party**. Subject to the review and approval of the JDC, Pliant will be the Regulatory Lead Party for Licensed Products during the Initial Development Period. Outside of the Initial Development Period for a Licensed Product, NVS will be the Regulatory Lead Party and will have sole responsibility for all regulatory matters relating to such Licensed Product, including with respect to Regulatory Filings and meetings with Regulatory Authorities; provided, that Pliant will reasonably cooperate with NVS, without charge to NVS, to provide any reasonable additional assistance or materials reasonably requested by NVS prior to the First Commercial Sale of such Licensed Product.

(ii) **General**. Subject to the review and approval of the JDC during the Initial Development Period and JSC following the Initial Development Period, and this Section 7.1, the Regulatory Lead Party for a Licensed Product shall be responsible to (A) oversee, monitor and coordinate all regulatory actions, communications, and filings with, and submissions to, each Regulatory Authority with respect thereto, (B) interface, correspond and meet with each Regulatory Authority with respect thereto, and (C) seek and maintain all Regulatory Filings with respect to such Licensed Product; provided, however, that in no event will Pliant withdraw any Regulatory Filings for any Licensed Product without first obtaining NVS' prior written consent.

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

(iii) **Transition**. Upon the Development Transfer Date for a Licensed Product, (A) Pliant will promptly assign and transfer to NVS or its designee all Regulatory Filings and other Regulatory Materials, including any IND for the Phase 1 Study, with respect to such Licensed Product in accordance with NVS' instructions, including all drug master files, all written correspondence or minutes of meeting and memoranda of oral communications with any Regulatory Authority with respect to such Licensed Product (to the extent not already provided to NVS previously); and (B) each Party will submit to the applicable Regulatory Authority all filings, letters and other documentation necessary to effect such assignment and transfer as soon as practicable, in an efficient and seamless manner, and no later than [***] days prior to the start of the first Clinical Study for such Licensed Product commenced after the Initial Development Period.

(iv) **Right of Reference**. Until the Development Transfer Date for a Licensed Product, each Party hereby grants and will cause its Affiliates, licensees, and sublicensees to grant to the other Party, a right of reference to, and a right to access, copy and use, all information and data (including all CMC information) included in or used in support of any drug master file maintained by or on behalf of such Party that relates to such Licensed Product to the extent necessary to Develop or Manufacture such Licensed Product in accordance with the applicable Development Plan. From and after the Development Transfer Date, Pliant hereby grants and will cause its Affiliates, licensees, and sublicenses to grant to NVS, a right of reference to, and a right to copy, access, and otherwise use, all information and data (including all CMC information) included in or used in support of any drug master file maintained by or on behalf of Pliant that relates to such Licensed Product to the extent not transferred to NVS pursuant to Section 7.1(a)(iii), except for any drug master file containing information relating to Pliant's proprietary [***] assays, which will be subject to Section 7.1(f). Notwithstanding anything to the contrary in this Agreement, Pliant will not, and will cause its Affiliates, licensees, and sublicensees not to, withdraw or inactivate any Regulatory Filing that NVS, its Affiliates or sublicensees reference or otherwise use pursuant to this Section 7.1(a)(iv).

(b) **Regulatory Meetings.** During the Initial Development Period, Pliant shall: (i) provide NVS with reasonable advance notice of all substantive meetings, conferences, and discussions (whether in person or by telephonic or video conference) with any Regulatory Authorities pertaining to such Licensed Product; (ii) provide draft briefing materials and meeting presentations for review reasonably in advance and consider in good faith in the preparation of such meetings, conferences or discussion any input timely provided by NVS; and (iii) to the extent not prohibited by Applicable Law, grant NVS the right to participate in any such meetings, conferences or discussions and facilitate such participation, provided that Pliant shall have the right to control any such meetings, conferences or discussions as between the Parties. If NVS elects not to participate in such meetings, conferences or discussions, Pliant shall provide NVS, upon NVS' request, with written summaries of such meetings, conferences or discussions in English as soon as practicable after the conclusion thereof. After the Development Transfer Date, Pliant may be permitted to participate in such meetings, conferences or discussions at NVS's sole discretion.

(c) **Regulatory Filings**. During the Initial Development Period, Pliant will: (i) provide NVS for review and comment, copies in English of all Regulatory Filings and Regulatory Materials to be submitted (other than routine correspondence, administrative documents and excluding documents related to Pricing Approval) by or on behalf of Pliant prior to the relevant submission in order to allow reasonable time for NVS to review and comment, whenever possible, at least [***] days in advance of their intended date of submission to a Regulatory Authority; (ii) incorporate all reasonable comments thereto provided by NVS; and (iii) promptly notify and provide to NVS any Regulatory Materials (other than routine correspondence, administrative documents and excluding documents related to Pricing Approval) received from any Regulatory Authority with respect to such Licensed Product. After the Development Transfer Date, NVS will provide Pliant copies in English of all material Regulatory Filings and Regulatory Materials that NVS submits to or receives from any Regulatory Authority (other than routine correspondence, administrative documents and excluding documents related to Pricing Approval) with respect to such Licensed Product. For the avoidance of doubt, all Regulatory Filings and Regulatory Materials with respect to a Licensed Product will be deemed the Confidential Information of NVS.

(d) **Costs**. NVS will bear one hundred percent (100%) of the costs and expenses for all regulatory matters relating to a Licensed Product, except that Pliant will bear its own costs and expenses for its attendance at any meeting with a Regulatory Authority pursuant to Section 7.1(b).

(e) **Regulatory Vouchers.** [***] received with respect to any Licensed Product during the Term, [***]; provided that [***].

(f) [***] **Assays**. If information relating to Pliant's [***] assays is required to be submitted to any Regulatory Authority for NVS to obtain Regulatory Approval for a Licensed Product, then Pliant shall file a drug master file with such Regulatory Authority that includes such information. Pliant hereby grants and will cause its Affiliates, licensees, and sublicensees to grant to NVS, and at the request of NVS, its Affiliates or sublicensees, a right of reference to, and a right to copy, access, and otherwise use, all information and data (including all CMC information) included in any such drug master file to the extent necessary to obtain Regulatory Approval for such Licensed Product. Notwithstanding anything to the contrary in this Agreement, Pliant will not, and will cause its Affiliates, licensees, and sublicensees not to, withdraw or inactivate any drug master file that NVS, its Affiliates or sublicensees reference or otherwise use pursuant to this Section 7.1(f). Pliant will own any such drug master file, which will be deemed the Confidential Information of Pliant. Pliant will give NVS written notice reasonably in advance of, and where possible, at least [***] Business Days prior to any material communication with Regulatory Authorities with respect to any such drug master file, and in such written notice will provide NVS with [***].

7.2 Research Products.

(a) **Responsibility and Costs for Regulatory Matters**. NVS will be solely responsible, at its sole cost and expense, for determining the regulatory plans and strategies and for all other regulatory matters relating to all Research Products, including: (i) overseeing, monitoring and coordinating all regulatory actions, communications and filings with, and submissions to, each Regulatory Authority with respect to such Research Products; and (ii) interfacing, corresponding, and meeting with each Regulatory Authority. Pliant will fully cooperate with and provide assistance to NVS and its designees upon NVS's request in connection with filings to any Regulatory Authority relating to the Research Product(s), including by executing any required documents, providing access to personnel and providing NVS with copies of all reasonably required documentation.

(b) **Ownership of Regulatory Filings**. NVS or its designee will own all Regulatory Filings and related Regulatory Material with respect to each Research Product, including any drug master files maintained by or on behalf of Pliant exclusively related to such Research Product and all such Regulatory Filings and Regulatory Material will be deemed the Confidential Information of NVS. NVS will provide Pliant, through the JSC, as part of the updates regarding Development activities described in Section 6.2(b), with [***] with respect to any Research Product during the preceding Calendar Year. [***]

(c) **Right of Reference**. Pliant hereby grants and will cause its Affiliates, licensees, and sublicensees to grant to NVS, and at the request of NVS, its Affiliates or sublicensees, a right of reference to, and a right to copy, access, and otherwise use, all information and data (including all CMC information) included in or used in support of any drug master file maintained by or on behalf of Pliant that relates to any Research Product to the extent necessary or useful to Research, Develop, Manufacture or Commercialize such Research Product. Notwithstanding anything to the contrary in this Agreement, Pliant will not, and will cause its Affiliates, licensees, and sublicensees not to, withdraw or inactivate any Regulatory Filing that NVS, its Affiliates or sublicensees reference or otherwise use pursuant to this Section 7.2(c).

(d) **Integrin Assays**. If information relating to Pliant's proprietary [***] assays is required to be submitted to any Regulatory Authority for NVS to obtain Regulatory Approval for a Research Product, then Pliant shall file a drug master file with such Regulatory Authority that includes such information. Pliant hereby grants and will cause its Affiliates, licensees, and sublicensees to grant to NVS, and at the request of NVS, its Affiliates or sublicensees, a right of reference to, and a right to copy, access, and otherwise use, all information and data (including all CMC information) included in any such drug master file to the extent necessary to obtain Regulatory Approval for such Research Product. Notwithstanding anything to the contrary in this Agreement, Pliant will not, and will cause its Affiliates, licensees, and sublicensees not to, withdraw or inactivate any drug master file that NVS, its Affiliates or sublicensees reference or otherwise use pursuant to this Section 7.2(d). Pliant will own any such drug master file, which will be deemed the Confidential Information of Pliant. Pliant will give NVS written notice reasonably in advance of, and where possible, at least [***] Business Days prior to any material communication with Regulatory Authorities with respect to any such drug master file, and in such written notice will provide NVS with a brief description of the principal issues raised in such communication and any material changes to such drug master file that Pliant makes.

7.3 Regulatory Vouchers. [***] received with respect to any Research Product during the Term, [***]; provided that [***].

7.4 Pharmacovigilance. The Parties shall cooperate with regard to the reporting and handling of Adverse Events in accordance with Applicable Law and regulations on pharmacovigilance. [***].

8. MANUFACTURING

8.1 Product Manufacturing.

(a) **For Research**. Subject to the oversight of the JSC and JRC, as applicable, Pliant will Manufacture (i) Research Compounds for Research in accordance with the applicable Research Plan up to Development Candidate Selection; and (ii) Licensed Compound or Licensed Product required for Research in accordance with the applicable Development Plan, in each case ((i) and (ii)) in accordance with quality standards in the industry for research purposes.

(b) **For Development**. Subject to the oversight of the JSC and JDC, and in accordance with Applicable Law, Pliant will Manufacture or have Manufactured Licensed Products for Clinical Supply for use in the FIH Study during the Initial Development Period for such Licensed Product in accordance with the applicable Clinical Supply Agreement and applicable Clinical Quality Assurance Agreement, and NVS will be responsible for Manufacture of Licensed Products for all other Clinical Studies, including, for the avoidance of doubt, the Hepatic Impairment Study. To the extent that Pliant engages a Third Party to Manufacture Licensed Product, then Pliant shall only engage a Third Party that is [***] suitable for Manufacture of Licensed Product. The Parties will collaborate via the JDC to identify a suitable Third Party for such Manufacturing activities. NVS will be responsible for Manufacture of all Selected Research Compounds and Research Products for use in Development and Clinical Studies. At any time that Pliant is Manufacturing or having Manufactured Licensed Products, NVS may elect, at its sole discretion, to transfer any responsibility for Manufacture of Licensed Product for which Pliant is responsible under this Section 8.1(b), from Pliant to NVS.

(c) **For Commercial**. NVS will have the right and responsibility to Manufacture or have Manufactured all Products for Commercial Supply.

8.2 Price for Supply of Products. NVS will be responsible for the reasonable documented Development Manufacturing Costs actually incurred by Pliant directly in connection with the Manufacture and supply of Compounds and Product in accordance with the Research Plan(s) and Clinical Supply Agreement(s), as applicable; provided, that: (a) the costs for Manufacturing Research Compounds during the Research Term shall be set forth in the applicable JSC-approved Research Budget; and (b) Products Manufactured and supplied pursuant to the applicable Clinical Supply Agreement shall be supplied to NVS at a price equal to [***], and provided further that the Development Manufacturing Costs for supply of Licensed Products pursuant to Sections 8.1(a) and 8.1(b) are subject to the Development Reimbursement Cap,.

8.3 Clinical Supply Agreements. At such time as directed by the JSC and subject to the oversight of the JDC, the Parties will, within [***] days of the Effective Date negotiate in good faith one or more definitive supply agreements for Pliant to Manufacture and supply Product to NVS for Clinical Supply use of such Product in Clinical Studies prior to and including the first Phase 1 Study, in accordance with this Agreement ("**Clinical Supply Agreement(s)**"), along with the associated quality agreement ("**Clinical Quality Assurance Agreement**"). The Clinical Supply Agreement and the Clinical Quality Assurance Agreement will provide for customary terms and conditions, including pricing in accordance with Section 8.2, quality requirements, forecasting, ordering, delivery, technical criteria to be met, acceptance and rejection, audit provision and payment, in each case, in accordance with the terms of this Agreement.

8.4 Audit and Inspection. During such time that any Compound or Product is Manufactured by or on behalf of Pliant, Pliant grants NVS, and with respect to any CMO, will secure for NVS the right, in each case, at reasonable times, with reasonable prior written notice, [***], to inspect Pliant's or such CMO's production facilities to: (a) perform a qualification audit; (b) confirm Pliant's or such CMO's compliance with cGMP, NVS Quality Requirements, the applicable specifications, and Applicable Law; and (c) review relevant Manufacturing records with respect to Products, in each case, in accordance with the Clinical Quality Assurance Agreement. The first such inspection will take place no later than [***] days after the Effective Date. If NVS observes a condition that causes it to believe that any Compounds or Products are not being Manufactured in accordance with cGMP, NVS Quality Requirements, or the applicable specifications or Applicable Law, then the Parties will discuss and agree on any appropriate corrective actions to address such non-compliance, and Pliant will and will cause such CMO to implement any such corrective action, in each case, in accordance with the Clinical Quality Assurance Agreement. If any Regulatory Authority or any other Governmental Authority conducts or gives notice of its intent to conduct any audit or inspection at any offices or facilities (including Manufacturing facilities) of Pliant or any CMO where such audit or inspection relates to any Compounds or Products, then Pliant will promptly, but in any event within [***] hours, give notice thereof to NVS and, to the extent such audit or inspection relates to a Compound or Product and to the extent practicable and not prohibited by Applicable Law, secure for NVS the right to participate in any such audit or inspection. Pliant shall ensure that all such rights set forth in this Section 8.4 apply to all Third Party subcontractors and suppliers used by Pliant.

8.5 Technology Transfer. At the time designated by NVS for transferring responsibility to Manufacture Products to NVS or its designee(s), Pliant will make available to NVS and its designees all additional Pliant Know-How that is necessary or reasonably useful to enable NVS or its Affiliates to Manufacture or have Manufactured Product but in all cases excluding Pliant's proprietary [***] assays (the "**Pliant Manufacturing Know-How**"), including by providing copies or samples of relevant documentation, Pliant's Materials, and other embodiments of such Pliant's Manufacturing Know-How. Without limiting the foregoing, the transfer shall include (to the extent Pliant has the right to transfer such items under its agreements with Third Party subcontractors, as applicable): (a) transferring copies of technical documentation, specifications, patents and procedures, and tangible embodiments of the Pliant Manufacturing Know-How; (b) providing access to a sufficient number of Pliant's qualified scientists, production and quality assurance personnel and engineers, as well as quality control personnel; (c) allowing reasonable access to the Manufacturing sites, CMOs and Affiliates involved in the Manufacture of the applicable Products; and (d) any other support or training reasonably requested by NVS to facilitate such transfer. All such transfer and assistance shall be at Pliant's cost and expense. The JSC shall coordinate the transfer of the Pliant Manufacturing Know-How pursuant to this Section 8.5.

9. COMMERCIALIZATION

NVS will be solely responsible, at its sole cost and expense, for all aspects of Commercialization of Products in the Territory, including planning and implementation, distribution, booking of sales, pricing and reimbursement. Following receipt of the applicable Regulatory Approvals for a Product, NVS shall use Commercially Reasonable Efforts, at its expense, to Commercialize such Product in at least [***].

10. FINANCIAL PROVISIONS

10.1 Initial License Fee. NVS shall pay to Pliant within [***] days after receipt of an invoice from Pliant, which invoice shall be substantially in the form of Exhibit G (the "**Invoice**") and issued promptly following the Effective Date[***] one-time payment of [***] Dollars ($[***]).

10.2 Target Validation Fee. Subject to Section 3.1, and where applicable Section 15.6, no later than [***] days after receipt of an Invoice from Pliant, which Invoice shall be issued by Pliant promptly following the date on which Pliant receives NVS' notice of Target Validation pursuant to Section 3.1, NVS shall pay to Pliant a fee (each, a "**Target Validation Fee**") of [***] Dollars ($[***]) for each Candidate Target that achieves Target Validation and is deemed a Research Target, for up to three (3) Research Targets. For clarity, in no event shall the aggregate Target Validation Fee payments to Pliant exceed [***] Dollars ($[***]).

10.3 Development Milestone Payments. Subject to Section 10.3(d), on a Licensed Product-by-Licensed Product or a Research Target-by-Research Target basis, as applicable, NVS shall make one-time milestone payments to Pliant (each, a "**Development Milestone Payment**") upon the first (1st) achievement of each milestone event set forth in this Section 10.3 (each, a "**Development Milestone Event**") as set forth in the applicable table below with respect to a Licensed Product or Research Product, as applicable.

(a) **Licensed Product**. Subject to Section 10.3(c) and Section 10.3(d), NVS shall make the Development Milestone Payments provided below to Pliant upon the first (1st) achievement of the corresponding Development Milestone Event for the applicable Licensed Product. Each Development Milestone Payment will be payable only once with respect to the first Licensed Product that achieves such Development Milestone Event, notwithstanding the number of Licensed Products that may achieve the applicable Development Milestone Event nor the number of times a Licensed Product achieves such Development Milestone Event.

Development Milestone Event for a Licensed Product	Development Milestone Payment (USD)
1. [***]	$[***]
2. [***]	$[***]
3. [***]	$[***]
4. [***]	$[***]
5. [***]	$[***]
6. [***]	$[***]
7. [***]	$[***]
Licensed Product Development Milestone Cap	[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

(b) **Research Targets**. Subject to Section 10.3(c) and Section 10.3(d), NVS shall make the Development Milestone Payments provided below to Pliant upon the first (1st) achievement of the corresponding Development Milestone Event by a Research Product for each Research Target. Each series of Development Milestone Payments will be payable only once with respect to the first Research Product that achieves such Development Milestone Event for a Research Target, notwithstanding the number of Research Products that may achieve the applicable Development Milestone Event for such Research Target, nor the number of times a Research Product achieves such Development Milestone Events, and in all cases, only with respect to up to three (3) Research Targets.

Development Milestone Event for a Research Product	Development Milestone Payment (USD)
1. [***]	$[***]
2. [***]	$[***]
3. [***]	$[***]
4. [***]	$[***]
5. [***]	$[***]
6. [***]	$[***]
7. [***]	$[***]
Research Target Development Milestone Cap	[***]

(c) [***].

(d) **Additional Development Milestone Terms**. Notwithstanding the foregoing, for the purpose of construing the Development Milestone Payments specified in the above tables:

(i) **Cap on Licensed Products**. The aggregate total of all Development Milestone Payments made with respect to the Licensed Product shall not exceed the amount identified as the Licensed Product Development Milestone Cap in the table above. Each Development Milestone Payment for Licensed Product shall be payable only on the first (1st) occurrence of the achievement of the applicable Development Milestone Event of any Licensed Product, as applicable, and none of the Development Milestone Payments shall be payable more than once.

(ii) **Cap on Research Targets**. The aggregate total of all Development Milestone Payments made with respect to Research Targets shall not exceed the amount identified as the Research Target Development Milestone Cap in the table above, for up to a total of three (3) Research Targets. Each Development Milestone Payment for a Research Target shall be payable only on the first (1st) occurrence of the achievement of the applicable Development Milestone Event of a Research Product for such Research Target, and no Development Milestone Payment shall be payable more than once with respect to any Research Target.

(iii) Without limiting the foregoing, if Development of a Product is terminated after a Development Milestone Event is achieved with respect to such Product, then the corresponding Development Milestone Payment shall not be due on any subsequent achievement of the same Development Milestone Event by a subsequent Product for such Target. All such Development Milestone Payments are subject to the terms, where applicable, of Section 15.2(a)(ii) and Section 15.6.

(e) **Payment Terms for Development Milestone Payments.** NVS shall provide Pliant with written notice of the achievement of each Development Milestone Event for which payment is due hereunder within [***] days after such Development Milestone Event has been achieved. After receipt of such notice, Pliant shall submit an Invoice to NVS for the corresponding Development Milestone Payment. Subject to the terms, where applicable, of Section 15.2(a)(ii) and Section 15.6, NVS shall make the corresponding Development Milestone Payment to Pliant within [***] days after receipt of such Invoice, and each such payment [***].

10.4 Commercial Milestone Payments.

(a) Subject to Section 10.4(b) and Section 10.4(c), NVS shall make one (1)-time payments of each of the sales milestone payments indicated below (each, a "**Commercial Milestone Payment**") to Pliant when the aggregate Annual Net Sales of Licensed Products first achieves the Dollar values indicated in the table below (each, a "**Commercial Milestone Event**"). Commercial Milestone Payments will be payable only once with respect to a Licensed Product, notwithstanding the number of Licensed Products that may achieve the applicable Commercial Milestone Event nor the number of times a Licensed Product achieves such Commercial Milestone Event.

Commercial Milestone Event	Commercial Milestone Payment (USD)
Aggregate Annual Net Sales Equal to or Above $[***]	$[***]
Aggregate Annual Net Sales Equal to or Above $[***]	$[***]
Aggregate Annual Net Sales Equal to or Above $[***]	$[***]

(b) **Additional Commercial Milestone Terms.** The aggregate total of all Commercial Milestone Payments made shall not exceed [***]. All such Commercial Milestone Payments are subject to the terms, where applicable, of Section 15.2(a)(ii) and Section 15.6.

(c) **Payment Terms for Commercial Milestone Payments.** NVS shall include written notice of achievement of each Commercial Milestone Event in the Sales and Royalty Report pursuant to Section 10.11(b). Subject to the terms, where applicable, of Section 15.2(a)(ii) and Section 15.6, NVS shall make the corresponding Commercial Milestone Payment to Pliant coincident with payment of royalties pursuant to Section 10.11(b), and each such Commercial Milestone Payment [***].

10.5 Royalties. During the applicable Royalty Term and subject to Section 10.6 and Section 10.7, NVS shall make royalty payments to Pliant, on a Product-by-Product basis, based on Annual Net Sales of the applicable Product within the Field in the Territory by NVS, its Affiliates, and its sublicensees at the applicable rates set forth below. All such royalty payments are subject to the terms, where applicable, of Section 15.2(a)(ii) and Section 15.6.

(a) **Licensed Products.** Subject to Section 10.6, NVS shall pay to Pliant royalties, during the Royalty Term, on a Licensed Product-by-Licensed Product basis, on Annual Net Sales for each Licensed Product within the Field in the Territory at the royalty rates set forth below.

Portion of Annual Net Sales	**Royalty Rate**
Portion of Annual Net Sales from $0 up to and including $[***]	[***]%
Portion of Annual Net Sales from $[***] up to and including $[***]	[***]%
Portion of Annual Net Sales from $[***] up to and including [***]	[***]%
Portion of Annual Net Sales greater than $[***]	[***]%

(b) **Research Products.** Subject to Section 10.6 and Section 10.7, NVS shall pay to Pliant royalties, during the Royalty Term, on a Research Product-by-Research Product basis, on Annual Net Sales for each Research Product in the Territory at the royalty rates set forth below

Portion of Annual Net Sales	**Royalty Rate**
Portion of Annual Net Sales from $0 up to and including $[***]	[***]%
Portion of Annual Net Sales from $[***] up to and including $[***]	[***]%
Portion of Annual Net Sales from $[***] up to and including [***]	[***]%
Portion of Annual Net Sales greater than $[***]	[***]%

10.6 Additional Royalty Terms.

(a) **Royalty Term**. Subject to this Section 10.6, on a Product-by-Product and country-by-country basis, the royalties due under Section 10.5 shall be payable on Annual Net Sales commencing from the First Commercial Sale of such Product in a country until the latest of: (i) expiration of the last Valid Claim of the Pliant Patents or Joint Product Patents Covering the sale of such Product in such country; (ii) ten (10) years from the date of the First Commercial Sale of such Product in such country; or (iii) expiration of all Regulatory Exclusivity for such Product in such country (the "**Royalty Term**").

(b) **Know-How Royalty; Loss of Market Exclusivity**. If, during the Royalty Term, the relevant Product is (i) not Covered by a Valid Claim of a Pliant Patent or Joint Product Patent in the applicable country, or (ii) there is a Loss of Market Exclusivity in such country, then for so long as there is no Valid Claim in such country during the Royalty Term or there is a Loss of Market Exclusivity in such country during the Royalty Term, as applicable, the Net Sales for such country to be included in worldwide Annual Net Sales for the purposes of the calculation of royalties due to Pliant pursuant to Section 10.5 will be reduced by [***] percent ([***]%).

(c) **One Royalty.** Only one royalty shall be due under this Agreement: (i) with respect to the sale of the same unit of Product; and (ii) on the sale of a Product even if the Manufacture or Commercialization of such Product Covered more than one Valid Claim of the Pliant Patents or Joint Product Patents.

(d) **Compulsory Licenses and Other Step-In Rights.** In the event that NVS, its Affiliates or any sublicensees are required to grant any licenses or other rights to a Third Party, including any Governmental Authority, to Develop, Manufacture, or Commercialize a Product, whether as a result of the actions of any Governmental Authority or the exercise of any rights by an Upstream Party, or in the event any Governmental Authority exercises its right to substantially reduce the price at which such Product is sold in such country, then the royalty rates set forth in Section 10.5 shall not apply, and instead, the Parties shall negotiate in good faith reduced royalty rates for each such Product reflecting the applicable market for such Product in such country; subject to Expert Resolution in accordance with Section 18.1(b) in the event the Parties are unable to agree on such terms [***] days after the commencement of such negotiations.

10.7 Third Party Obligations.

(a) In the event that NVS reasonably determines that Intellectual Property Rights Controlled by a Third Party would be [***] to Research, Develop, Manufacture, or Commercialize a Licensed Product or Research Product in the Field in the Territory under this Agreement (but not any Active Ingredient included in such Licensed Product that is not a Licensed Compound or in such Research Product that is not a Selected Research Compound), NVS shall have the right to negotiate and acquire such Intellectual Property Rights through a license or otherwise (including pursuant to any settlement agreement); *provided that* where such Third Party Intellectual Property Rights are [***], NVS will first provide Pliant with written notice of any such Third Party license that it intends to enter, and Pliant will have the right to enter into such Third Party license itself within [***] months of Pliant's receipt of such notice on terms and conditions determined by Pliant with Pliant responsible for all costs and expenses incurred in connection with securing any such license, and whereby such Third Party Intellectual Property Rights licensed by Pliant shall be deemed Pliant Technology. If Pliant does not obtain such license, or where such Third Party Intellectual Property Right is [***] NVS will have the right to negotiate and acquire such Intellectual Property Rights through a license or otherwise (including pursuant to any settlement agreement), under terms and conditions to be determined by NVS, and to deduct from any payments on such Product as set forth in Section 10.5 due to Pliant with respect to a given Calendar Quarter, [***] percent ([***]%) of the amounts paid (including milestone payments, royalties, settlement payments, or other payments) by or on behalf of NVS to such Third Party for any Intellectual Property Rights that are necessary or reasonably useful to Research, Develop, Manufacture, or Commercialize such Licensed Product or Research Product, subject to the limitation set forth in Section 10.8.

(b) Notwithstanding anything to the contrary in this Agreement, subject to Section 11.8, Pliant shall remain solely responsible for the payment of royalty, milestone, and other payment obligations, if any, due to Third Parties in connection with any Third Party License under which Pliant Technology has been or is licensed to Pliant and is sublicensed to NVS under this Agreement (the "**Pliant Third Party Obligations**"). All such payments in respect of the Pliant Third Party Obligations shall be made promptly by Pliant in accordance with the terms of its agreements with the applicable Pliant Third Party License, and Pliant shall promptly inform NVS after each such payment has been made. In the event that, pursuant to Section 16.4(b), NVS elects to cure any alleged breach by Pliant or its Affiliates under any Third Party License sublicensed to NVS hereunder, NVS will have the right to deduct [***] by or on behalf of NVS to such Third Party against any payments on such Product as set forth in Sections 10.3, 10.4 or 10.5 due to Pliant with respect to a given Calendar Quarter[***].

10.8 Royalty Minimum. Except as provided in [***] or Section 15.6], in no event will the applicable royalty otherwise due to Pliant in a Calendar Quarter be reduced by more than [***] percent ([***]%) relative to the rates set forth in Section 10.5 due to the deductions contemplated hereunder; provided, that, in each of the foregoing circumstances, any such reduction not fully taken as a result of the application of this Section 10.8 may be carried forward and applied against future royalties otherwise owed.

10.9 Other Amounts Payable. With respect to any amounts owed under this Agreement by one Party to the other for which no other invoicing and payment procedure is specified in this Article 10, within [***] days after the end of each Calendar Quarter, each Party will provide an invoice, together with reasonable supporting documentation, to the other Party for such amounts owed in respect of such Calendar Quarter. The owing Party will pay any undisputed amounts within [***] days of receipt of the invoice, and any disputed amounts owed by a Party will be paid within [***] days of resolution of the dispute in accordance with Section 18.1(a).

10.10 No Projections. Pliant and NVS acknowledge and agree that nothing in this Agreement shall be construed as representing an estimate or projection of anticipated sales of any Product, and that the Development or Commercial Milestone Events and Net Sales levels set forth above or elsewhere in this Agreement or that have otherwise been discussed by the Parties are merely intended to define the Development or Commercial Milestone Events and royalty obligations to Pliant in the event such Development or Commercial Milestone Events or Net Sales levels are achieved. NEITHER PLIANT NOR NVS MAKES ANY REPRESENTATION OR WARRANTY, EITHER EXPRESS OR IMPLIED, THAT IT WILL BE ABLE TO SUCCESSFULLY DEVELOP OR COMMERCIALIZE ANY PRODUCT OR, IF COMMERCIALIZED, THAT ANY PARTICULAR NET SALES LEVEL OF SUCH PRODUCT WILL BE ACHIEVED.

10.11 Payment Terms.

(a) **Manner of Payment.** All payments to be made by a Party hereunder will be made in Dollars by wire transfer to such bank account as the other Party may designate in writing. Any payment which falls due on a date which is not a Business Day in the location from which the payment will be made may be made on the next succeeding Business Day in such location. For the avoidance of doubt, no payment obligations shall be incurred by either Party under or in connection with this Agreement unless and until the Effective Date.

(b) **Reports and Royalty Payments**. For as long as royalties are due under Section 10.5, NVS shall furnish to Pliant a Sales & Royalty Report, within [***] days after the end of each Calendar Quarter, showing the amount of Annual Net Sales of Products and the royalty due for such Calendar Quarter. Upon receipt of such written report, Pliant shall issue an Invoice to NVS and NVS shall pay such royalties within [***] days of receipt by NVS of such written Invoice for the Calendar Quarter.

(c) **Currency Exchange.** With respect to Annual Net Sales invoiced in Dollars, the Annual Net Sales and the amounts due to Pliant under this Agreement shall be expressed in Dollars. When the conversion of payments from any foreign currency is required to be undertaken by NVS, the Dollar equivalent shall be calculated using NVS's then-current standard exchange rate methodology as applied in its external reporting for the conversion of foreign currency sales into Dollars.

(d) **Taxes**.

(i) **Withholding**. Either Party (the "**Withholding Party**") may withhold from payments due to the other Party (the "**Non-Withholding Party**") amounts for payment of any withholding tax that is required by Applicable Law to be paid to any taxing authority with respect to such payments, which shall be remitted in accordance with Applicable Law, provided that if any Applicable Law requires such deduction or withholding of taxes from any payment under this Agreement, the Withholding Party shall (1) provide to the Non-Withholding Party all relevant documentation and correspondence, and (2) provide to the Non-Withholding Party any other cooperation or assistance on a reasonable basis as may be necessary to enable the Non-Withholding Party to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. The Withholding Party shall give proper evidence from time to time as to the payment of any such tax. The Parties shall cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. Such cooperation may include the Withholding Party making payments from a single source, where possible. If Withholding Party does not withhold on a payment based upon its reasonable belief that no withholding is required under the Agreement, but it is later determined that a withholding was required, except in respect of withholding taxes addressed in the immediately succeeding sentence, the Non-Withholding Party will reimburse the Withholding Party for the amount of any such withholding taxes (including interest imposed by the applicable taxing authority for the failure to withhold such taxes). Notwithstanding the foregoing, if (X) either Party redomiciles, assigns its rights or obligations or delegates its rights under this Agreement, (Y) as a result of such redomiciliation, assignment or delegation, such Party (or its assignee) is required by Applicable Law to withhold taxes from or in respect of any amount payable under this Agreement, and (Z) such withholding taxes exceed the amount of withholding taxes that would have been applicable but for such redomiciliation, assignment or delegation, then any such amount payable shall be increased to take into account such withholding taxes as may be necessary so that, after making all required withholdings (including withholdings on the additional amounts payable), the payee (or its assignee) receives an amount equal to the sum it would have received had no such increased withholding been made. Solely for purposes of this Section 10.11(d)(i), a Party's "domicile" shall include its jurisdiction of incorporation or tax residence and a "redomiciliation" shall include a reincorporation or other action resulting in a change in tax residence of the applicable Party or its assignee.

(ii) **Indirect Taxes**. All remunerations mentioned in this Agreement are exclusive of Indirect Taxes. If any Indirect Taxes are chargeable in respect of any payments made under this Agreement, the payor shall pay such Indirect Taxes at the applicable rate in respect of such payments following receipt, where applicable, of an Indirect Taxes invoice in the appropriate form issued by the payee in respect of those payments. The Parties shall cooperate in accordance with Applicable Law to minimize any Indirect Taxes incurred in connection with this Agreement and any Indirect Tax owed by one Party in connection with this Agreement will be shared equally between the Parties. In such case, the payor Party will provide the other Party an invoice for its equal share of any such Indirect Tax within [***] days of the end of the relevant Calendar Year in which such Indirect Tax obligation was incurred, and such other Party will pay any undisputed amounts within [***] days of receipt of the invoice, and any disputed amounts owed by a Party will be paid within [***] days of resolution of the dispute in accordance with Section 18.1(a).

(e) **Late Payments.** Any undisputed payments or portions thereof due hereunder which are not paid when due will bear interest at the rate per annum equal to the lesser of: (i) [***] USD-LIBOR rate as quoted on Bloomberg (or if it no longer exists, a similarly authoritative source); or (ii) the highest rate permitted by Applicable Law, calculated on the number of days such payment is paid after the date such payment is due, and compounded monthly (the "**Interest Rate**"). Interest shall not accrue on undisputed amounts that were paid after the due date solely as a result of mistaken action by the payee (e.g., if a payment is late as a result of providing an incorrect account for receipt of payment).

10.12 Records and Audits.

(a) Each Party shall, and NVS shall cause its sublicensees to, keep complete, true, and accurate books and records in accordance with its Accounting Standards in relation to this Agreement, including with respect to Development Costs, Net Sales, and Sales & Royalty Report. Each Party shall keep such books and records for at least [***] years following the Calendar Year to which they pertain.

(b) Each Party (the "**Auditing Party**") may, upon written request, cause an internationally-recognized independent accounting firm (the "**Auditor**"), which is reasonably acceptable to the other Party (the "**Audited Party**"), to inspect the relevant records of such Audited Party and its Affiliates to verify the payments made and amounts reported by the Audited Party and the related reports, statements, and books of accounts, as applicable. Before beginning its audit, the Auditor shall execute an undertaking acceptable to the Audited Party by which the Auditor shall agree to keep confidential all information made available to the Auditor during the audit. The Auditor shall have the right to disclose to the Auditing Party only its conclusions regarding any payments owed under this Agreement. Each Party and its Affiliates shall make their records available for inspection by the Auditor during regular business hours at such place or places where such records are customarily kept, upon receipt of reasonable advance notice from the Auditing Party. The records shall be reviewed solely to verify the accuracy of the Audited Party's Sales & Royalty Report or other financial reports furnished by the Audited Party pursuant to this Agreement and payment obligations made or required to be made pursuant to this Agreement, and compliance with the financial terms of this Agreement. Such inspection right shall not be exercised more than [***] and not more frequently than once without cause with respect to records covering any specific period of time. In addition, the Auditing Party shall only be entitled to audit the books and records of the Audited Party from the [***] Calendar Years prior to the Calendar Year in which an audit request is made. The Auditing Party agrees to hold in strict confidence all information received and learned in the course of any audit, except to the extent necessary to enforce its rights under this Agreement or to the extent required to comply with Applicable Law or judicial order. The Auditor shall provide its audit report and basis for any determination to the Audited Party at the time such report is provided to the Auditing Party before it is considered final.

(c) In the event that the final result of the inspection reveals an underpayment or an overpayment by either Party, the underpaid or overpaid amount shall be settled within [***] days after receipt of the final report from the Auditor. The Auditing Party shall pay for any audit, as well as its expenses associated with enforcing its rights with respect to any payments under this Agreement; provided, that, if an underpayment of amounts due by the Auditing Party of more than [***] percent ([***]%) of the total payments due under this Agreement for the applicable year is discovered, the reasonable fees and expenses charged by the Auditor for such audit shall be paid by the Audited Party.

11. INTELLECTUAL PROPERTY RIGHTS

11.1 Ownership of Inventions and Data.

(a) **Ownership**. As between the Parties, and subject to the licenses granted under this Agreement, each Party retains all rights, title, and interests in and to all Intellectual Property Rights that such Party owns or Controls as of the Effective Date or that it develops or otherwise acquires after the Effective Date outside the performance of the activities under this Agreement. Ownership of all clinical data, results and other Know-How arising from the Parties' activities under this Agreement, including Research Results (collectively, "**Product Data**"), and all Inventions, shall be based on inventorship, as determined in accordance with the rules of inventorship under United States patent laws, and each Party shall solely own any Inventions made solely by its and its Affiliates' employees, agents, or independent contractors, and the Parties shall jointly own any Inventions that are made jointly by employees, agents, or independent contractors of one Party and its Affiliates together with employees, agents, or independent contractors of the other Party and its Affiliates. Upon a Party's request, the other Party shall and shall cause its Affiliates and subcontractors to execute such documents and take such further actions reasonably necessary to effectuate this Section 11.1(a).

(b) **Disclosure**. Each Party shall promptly disclose to the other Party all Inventions made by or on behalf of such Party and its Affiliates and subcontractors, including all Invention disclosures or other similar documents submitted to such Party by its, or its Affiliates' or, employees, agents or contractors relating to such technology, where such technology is licensed to the other Party hereunder, and shall also respond promptly to reasonable requests from the other Party for additional information relating to such Inventions.

(c) **Personnel Obligations**. Each employee, agent or contractor of a Party or its respective Affiliates or sublicensees performing work under this Agreement shall, prior to commencing such work, be bound by invention assignment obligations, including: (i) promptly reporting any Inventions and Intellectual Property Rights arising from such work; (ii) presently assigning to the applicable Party all of his or her right, title and interest in and to any Inventions and Intellectual Property Rights arising from such work (excluding any agreements with academic universities and/or other governmental entities, for which a non-exclusive license, or an option for an exclusive license may be obtained); (iii) cooperating in the preparation, filing, prosecution, maintenance, defense, and enforcement of any Patent; and (iv) performing all acts and signing, executing, acknowledging and delivering any and all documents required for effecting the obligations and purposes of this Agreement.

(d) **Joint Technology**. Except to the extent either Party is restricted by: (i) the licenses granted to the other Party; or (ii) the covenants provided by a Party under this Agreement, each Party shall be entitled to practice, license (through multiple tiers), assign (their respective interest only) and otherwise exploit the Joint Technology in all countries and jurisdictions without the duty of accounting or seeking consent from the other Party. To the extent necessary in any jurisdiction to give effect to the rights to such Joint Technology, but subject to the licenses granted and covenants provided under this Agreement, each Party hereby grants and agrees to grant to the other Party a nonexclusive, royalty-free, fully-paid, worldwide, irrevocable, perpetual license, with the right to grant sublicenses through multiple tiers, to practice the Joint Technology for any and all purposes; provided that the foregoing shall not limit NVS' obligations to make royalty payments to Pliant pursuant to Section 10.5.

(e) **Common Ownership under Joint Research Agreements**. Notwithstanding anything to the contrary in this Agreement, neither Party will have the right to invoke "common ownership" under a Joint Research Agreement pursuant to Applicable Law when exercising its rights under this Agreement without the prior written consent of the other Party, such consent not to be unreasonably withheld, conditioned, or delayed. In the event that a Party is permitted to invoke such common ownership as required by the preceding sentence, the Parties will cooperate and coordinate their activities with respect to any submissions, filings or other activities in support thereof. The Parties acknowledge and agree that this Agreement is a "joint research agreement" as defined under Applicable Law.

11.2 IP Committee.

(a) **Composition.** The IP Committee will be comprised of at least one representative of each Party, which representative shall be either an employee or an outside legal counsel for such Party, provided further that any such outside counsel is bound by confidentiality obligations no less stringent than the requirements of Sections 12.1 and 12.2. Each Party will appoint its respective representatives to the IP Committee within [***] of the Effective Date, and from time to time, may substitute one or more of its representatives, in its sole discretion, but subject to the terms of this Section 11.2(a), effective upon notice to the other Party of such change. All IP Committee representatives will have appropriate expertise, seniority, decision-making authority and ongoing familiarity with the Collaboration and each Party's representatives collectively will have relevant expertise in intellectual property portfolio management and licensing matters. Additional representatives or consultants may from time to time, by mutual consent of the Parties, be invited to attend IP Committee meetings, subject to such representatives and consultants (or the representative's or consultant's employer) undertaking confidentiality obligations, whether in a written agreement or by operation of law, no less stringent than the requirements of Sections 12.1 and 12.2.

(b) **Meetings**. The IP Committee will meet as necessary to carry out its duties under Section 11.2(c), but no more often than [***], unless otherwise agreed by its members. The IP Committee will meet in-person at Pliant or NVS or, alternatively, by means of teleconference, videoconference or other similar communications equipment.

(c) **IP Committee Responsibilities**. The IP Committee will provide input regarding strategies for Prosecuting and Maintaining Pliant Patents and Joint Patents, and such other matters as the Parties agree in writing will be the responsibility of the IP Committee. Without limiting the foregoing, the IP Committee will provide input regarding the filing and Prosecution of Patents within the Joint Patents that Cover Compounds and Products, excluding [***] ("**Joint Compound and Product Patents**"). In furtherance of this Section 11.2(c), each Party will provide appropriate updates to the IP Committee regarding Collaboration IP and other Patents and Know-How licensed hereunder, including with respect to anticipated filing strategies and new inventions.

(d) **Decision-Making.** The IP Committee will be an advisory committee to the Parties and will make recommendations by consensus. The IP Committee will not have any final decision-making power; provided that, the Parties will work together in good faith to enable the filing and prosecution of Joint Compound and Product Patents.

(e) **Term**. Either Party will have the right to terminate the IP Committee upon [***] advance written notice to the other Party, subject to approval by the JSC.

11.3 Patent Prosecution and Maintenance.

(a) **Responsibility for Prosecuting and Maintaining Pliant Patents and Certain Joint Patents.** Subject to the terms of this Section 11.3, (i) Pliant shall have the first right, but not the obligation, to Prosecute and Maintain the Pliant Patents, as well as Joint Patents that are not Joint Compound and Product Patents, using counsel of its own choice to whom NVS has no reasonable objection; and (ii) if Pliant decides not to Prosecute or Maintain any Pliant Patent or any such Joint Patent, Pliant shall notify NVS in writing at least [***] days prior to any relevant deadline or filing or response date, and NVS shall thereupon have the right, but not the obligation, to assume the Prosecution and Maintenance of such Pliant Patent or Joint Patent, as applicable, subject to the terms of this Section 11.3.

(b) **Responsibility for Prosecuting and Maintaining NVS Invention Patents and Joint Compound and Product Patents.** Subject to the terms of this Section 11.3, (i) NVS shall have the sole right, but not the obligation, to Prosecute and Maintain Patents claiming Inventions owned solely by NVS ("**NVS Invention Patents**") and the first right, but not the obligation, to Prosecute and Maintain Joint Compound and Product Patents using counsel of its own choice to whom Pliant has no reasonable objection; and (ii) if NVS decides not to Prosecute or Maintain any Joint Compound and Product Patent, NVS shall notify Pliant in writing at least [***] days prior to any relevant deadline or filing or response date, and Pliant shall thereupon have the right, but not the obligation, to assume the Prosecution and Maintenance of such Joint Compound and Product Patent, as applicable, subject to the terms of this Section 11.3.

(c) **Costs; Cooperation.** All costs and expenses incurred by the Party which Prosecutes and Maintains any Pliant Patent, Joint Patent, or NVS Invention Patent shall be borne by such Party (the "**Prosecuting and Maintaining Party**"). The Prosecuting and Maintaining Party of a Pliant Patent, Joint Compound and Product Patent or Joint Patent will: (i) keep the other Party reasonably informed of the status of such Patents and provide a copy of material substantive communications from any Governmental Authority concerning such Patents; (ii) reasonably in advance of making any filings or submissions to any Governmental Authority with respect to such Patents, such that the other Party may have a reasonable opportunity to review and comment thereon, provide a copy thereof to the other Party for its review and comment; and (iii) consider in good faith all comments timely provided to the Prosecuting and Maintaining Party by the other Party on such filings and communications. Upon the Prosecuting and Maintaining Party's request and at its expense, the other Party shall provide the Prosecuting and Maintaining Party with all reasonable assistance and cooperation in connection with its Prosecution and Maintenance of the applicable Patents, including by providing access to relevant persons and executing all documentation reasonably requested by the Prosecuting and Maintaining Party.

(d) **Patent Term Extension**. NVS will have the right to elect and file for patent term restorations or extensions, supplemental protection certificates, or any of their equivalents with respect to patent term restoration, supplemental protection certificates or their equivalents, and patent term extensions with respect to the Pliant Patents and Joint Patents in any country and/or region where applicable. NVS shall keep Pliant reasonably informed of its efforts to obtain such restoration or extension, supplemental protection certificate or their equivalents and shall in good faith consider Pliant's comments thereto. Pliant shall, and shall cause its Affiliates to, cooperate with and provide all reasonable assistance requested by NVS, including permitting NVS to proceed with applications for such in the name of Pliant, if deemed appropriate by NVS, and executing documents and providing any relevant information to NVS. NVS shall pay all expenses in regard to obtaining such patent term restoration or extensions, supplemental protection certificates or their equivalents.

11.4 Third Party Infringement; Agreement Patent Actions.

(a) **Notice**. Each Party will promptly notify the other Party of any: (i) infringement, misappropriation, or other violation by a Third Party of any of the Pliant Patents, Joint Patents, or NVS Invention Patents of which it becomes aware arising out of the exploitation of Compounds or Products ("**Third Party Infringement**"); and (ii) request for declaratory judgment, opposition, nullity action, interference, inter-partes reexamination, inter-partes review, post-grant review, derivation proceeding, or similar action alleging the invalidity, unenforceability or non-infringement of any of the Pliant Patents, Joint Patents, or NVS Invention Patents (each, an "**Agreement Patent Action**").

(b) **Control.**

(i) NVS will have the first right, but not the obligation, to bring and control any action in connection with any Third Party Infringement at its own expense as it reasonably determines appropriate. Pliant will have the right to join as a party to any such action and participate with its own counsel at its own expense, provided that NVS shall control the prosecution of such action. During any such action, NVS shall (I) provide Pliant with drafts of all official papers and statements prior to their submission in such action, in sufficient time to allow Pliant to review, consider and substantively comment thereon; and (II) reasonably consider incorporating any such Pliant comments. Solely with respect to the Pliant Patents and Joint Patents that are not Joint Compound and Product Patents, if NVS does not take commercially reasonable steps to prosecute any Third Party Infringement within [***] days following the first notice provided in Section 11.4(a)(i) above or [***] days before the time limit, if any, for filing of such actions in accordance with Applicable Law, whichever comes first, then Pliant may prosecute such Third Party Infringement at its own expense.

(ii) Pliant will have the first right, but not the obligation, to defend against any Agreement Patent Action for any Pliant Patent, at its own expense as it reasonably determines appropriate. NVS may participate in any such Agreement Patent Action for a Pliant Patent with counsel of its choice at its own expense, provided that Pliant shall control the defense in such Agreement Patent Action. If Pliant informs NVS that it does not intend to defend against an Agreement Patent Action, or if Pliant determines to cease defending against any such Agreement Patent Action, and, in each case, such Agreement Patent Action is not brought as a defense against a Third Party Infringement, then NVS will have the right, but not the obligation, upon written notice to Pliant, to defend against such Agreement Patent Action for a Pliant Patent, or take over the defense of any Agreement Patent Action initiated by Pliant, as applicable, in each case, solely as it relates to Pliant Patents.

(iii) NVS will have the first right, but not the obligation, to defend against any Agreement Patent Action for any Novartis Invention Patent or Joint Patent, at its own expense as it reasonably determines appropriate. Pliant may participate in any such Agreement Patent Action for a NVS Invention Patent or Joint Patent with counsel of its choice at its own expense, provided that NVS shall control the defense in such Agreement Patent Action. If NVS informs Pliant that it does not intend to defend against an Agreement Patent Action with respect to a Joint Product Patent, or if NVS determines to cease defending against any such Agreement Patent Action with respect to a Joint Product Patent, and, in each case, such Agreement Patent Action is not brought as a defense against a Third Party Infringement, then Pliant will have the right, but not the obligation, upon written notice to NVS, to defend against such Agreement Patent Action for a Joint Product Patent, or take over the defense of any Agreement Patent Action initiated by NVS, as applicable, in each case, solely as it relates to a Joint Product Patent.

(c) **Cooperation and Recoveries**. At the Party bringing and controlling any Third Party Infringement or defending any Agreement Patent Action or Claim of Product Infringement, as applicable ("**Controlling Party**")'s request, the other Party shall provide assistance in connection with such action, including by executing reasonably appropriate documents, providing access to such Party's premises and employees, cooperating reasonably in discovery, and joining as a party to the action if requested by the Controlling Party. The Controlling Party will keep the other Party reasonably informed of all material developments in connection with any such suit, provide copies of all documents filed, and consider in good faith any comments from the other Party, and the other Party shall have the right to consult with the Controlling Party and to participate in and, if appropriate, be represented by independent but mutually agreed upon counsel in such litigation at such other Party's own cost and expense. Neither Party shall, without the other Party's prior written consent, enter into any settlement or consent decree that requires any payment by or admits or imparts any other liability to the other Party or admits the invalidity or unenforceability of or adversely affects the scope of any such Pliant Patent or Joint Patent, which consent shall not be unreasonably withheld, delayed, or conditioned. Any recoveries resulting from a Claim of Third Party Infringement (whether by way of settlement or otherwise) shall be first applied against payment of each Party's costs and expenses in connection therewith (which amounts will be allocated pro rata if insufficient to cover the totality of such costs and expenses). Any remainder after such reimbursement to the extent relating to (i) Third Party Infringement of Pliant Patents in an action controlled by NVS will be [***]; (ii) Third Party Infringement of Pliant Patents in an action controlled by Pliant will be [***]; and (iii) any infringement of Joint Patents will be [***].

11.5 Product Infringement. If a Party becomes aware of any actual or potential Claim alleging that the Research, Development, Manufacture, or Commercialization of any Compounds or Products under this Agreement infringes, misappropriates, or otherwise violates any Intellectual Property Rights of a Third Party (or would if carried out) ("**Product Infringement**"), then such Party will notify the other Party as promptly as possible following the receipt of service of process in such action, suit, or proceeding, or the date on which such Party becomes aware that such action, suit, or proceeding has been instituted, and the Parties will meet as soon as possible to discuss the overall strategy for defense of such matter. NVS shall have the first right (but not the obligation) to defend any Claims of Product Infringement relating to a Compound or Product; provided however, that if either Party has an obligation to indemnify the other Party with respect to such Claim, then the provisions of Article 17 will apply with respect thereto. Pliant may participate in any such action, suit or proceeding with counsel of its choice at its own expense.

11.6 Patents Licensed From Third Parties. Each Party's rights under this Article 11 with respect to the Prosecution and Maintenance, enforcement, and defense of any Patent that is licensed from a Third Party shall be subject to the rights retained by such Upstream Party with respect to such Patent.

11.7 Trademarks. NVS shall have the right to brand any and all Product(s) using NVS related Trademarks it determines appropriate for such Product(s), which may vary by country or within a country ("**Product Marks**"). NVS shall own all rights in Product Marks and shall have the sole right to register and maintain Product Marks in the countries and regions it determines reasonably necessary.

11.8 Third Party Licenses. If any Know-How, Patent, other Intellectual Property Right, or proprietary or trade secret information, which would be useful, but not necessary for the Research, Development, Manufacture, or Commercialization of a Compound or Product under this Agreement, is first acquired by or licensed to a Party after the Execution Date from a Third Party, and if the use, practice or exploitation thereof by or on behalf of the other Party would require the first Party to pay any amounts to the Third Party from which the first Party acquired or licensed such Know-How, Patent, other Intellectual Property Right, or proprietary or trade secret information, then if such Know-How, Patent, other Intellectual Property Right, or proprietary or trade secret information would fall within the definition of "NVS Technology" or "Pliant Technology", as applicable, if it were "Controlled" by the relevant Party, then the Party acquiring or licensing such items shall so notify the other Party and provide to the other Party material information as to the nature of such Know-How, Patent, other Intellectual Property Right, or proprietary or trade secret information and the material terms of such agreement with such Third Party, including any payments that would be payable to such Third Party if such item were included in NVS Technology or Pliant Technology, as applicable. If such other Party desires the right to incorporate or to have such first Party incorporate, as applicable, such Know-How, Patent, other Intellectual Property Right, or proprietary or trade secret information in a Compound or Product, then such other Party shall notify such first Party, and such Know-How, Patent, other Intellectual Property Right, or proprietary or trade secret information shall not automatically be deemed to be Controlled by the relevant Party, and shall not be included in the definition of NVS Technology or Pliant Technology, unless and until the Parties mutually agree in writing on the inclusion thereof in the licenses granted under this Agreement and the allocation of responsibility for payment of such amounts.

12. CONFIDENTIALITY

12.1 Duty of Confidence.

(a) Subject to the other provisions of this Article 12, each Party will, as a receiving party, and will cause its Affiliates to, maintain in confidence and otherwise safeguard any and all Confidential Information disclosed by or on behalf of the other Party or its Affiliates under this Agreement. The recipient Party may only use such Confidential Information, subject to Section 4.4, for the purposes of this Agreement and pursuant to the rights granted to the recipient Party under this Agreement. Subject to the other provisions of this Article 12, the recipient Party and its Affiliates shall hold as confidential such Confidential Information of the other Party or its Affiliates in the same manner and with the same protection as the recipient Party maintains its own confidential information, but in any event with no less than reasonable protections. Subject to the other provisions of this Article 12, a recipient Party may only disclose Confidential Information of the other Party to its Affiliates, licensees, or sublicensees and their respective employees, directors, agents, subcontractors, contractors, consultants, and advisers, in each case, solely to the extent reasonably necessary for the purposes of, and for those matters undertaken pursuant to, this Agreement; provided, that any such Person is bound prior to disclosure to maintain the confidentiality of the Confidential Information in a manner consistent with the confidentiality provisions of this Agreement.

(b) Subject to Section 12.3, Pliant shall maintain in confidence and otherwise safeguard the Know-How included within the NVS Technology to the extent such Know-How is of a confidential and proprietary nature.

12.2 Exceptions. The obligations under Section 12.1 shall not apply to any information to the extent that such information:

(a) is (at the time of disclosure) or becomes (after the time of disclosure) known to the public or part of the public domain through no breach of this Agreement by the recipient Party or its Affiliates;

(b) was known to, or was otherwise in the possession of, the recipient Party or its Affiliates without any obligation of confidentiality, as evidenced by written records, prior to the time of disclosure by the disclosing Party or any of its Affiliates;

(c) is disclosed to the recipient Party or any of its Affiliates on a non-confidential basis by a Third Party who is entitled to disclose it without breaching any confidentiality obligation to the disclosing Party or any of its Affiliates; or

(d) is independently developed by or on behalf of the recipient Party or its Affiliates, as evidenced by written records, without reference to the Confidential Information disclosed by the disclosing Party or its Affiliates to the recipient Party or its Affiliates under this Agreement.

Specific aspects or details of Confidential Information shall not be deemed to be within the public domain or in the possession of the recipient Party merely because the Confidential Information is embraced by more general information in the public domain or in the possession of the recipient Party. Further, any combination of Confidential Information shall not be considered in the public domain or in the possession of the recipient Party merely because individual elements of such Confidential Information are in the public domain or in the possession of the recipient Party, unless the combination and its principles are in the public domain or in the possession of the recipient Party.

12.3 Authorized Disclosures.

(a) In addition to disclosures allowed under Section 12.2, the recipient Party, its Affiliates and sublicensees may disclose Confidential Information of the other Party to the extent such disclosure is necessary in the following instances: (i) in connection with the Prosecution and Maintenance of Patents as permitted by this Agreement; (ii) in connection with Regulatory Filings or audits by Regulatory Authorities for any Product; (iii) in connection with prosecuting or defending litigation as permitted by this Agreement; or (iv) in complying with Applicable Law, applicable court orders or governmental regulations and rules (including securities regulations and rules of any securities exchange).

(b) In addition, NVS or its Affiliates or sublicensees may disclose Pliant's or Pliant's Affiliates' Confidential Information to Third Parties as may be necessary in connection with the Research, Development, Manufacture, or Commercialization of the Products as contemplated by this Agreement; provided that any such Third Party is bound prior to disclosure to maintain the confidentiality of the Confidential Information in a manner consistent with the confidentiality provisions of this Agreement; provided further that this Section 12.3(b) shall apply *mutatis mutandis* to Pliant or its Affiliates or sublicensees with respect to Confidential Information of NVS or its Affiliates solely to the extent applicable to a Product being Developed and Commercialized by Pliant pursuant to the license set forth in Section 15.4(d), if and as applicable.

(c) In addition, a recipient Party may disclose the other Party's Confidential Information to its or their advisors, consultants, clinicians, vendors, service providers, and contractors to the extent necessary in assisting with such recipient Party's activities contemplated by this Agreement, including the practice of licenses granted to the recipient Party and its Affiliates pursuant to Section4.1, as applicable,; provided that any such advisor, consultant, clinician, vendor, service provider, and contractor is bound prior to disclosure to maintain the confidentiality of the Confidential Information in a manner consistent with the confidentiality provisions of this Agreement.

(d) In the event the recipient Party is required to disclose Confidential Information of the disclosing Party pursuant to Applicable Law or in connection with bona fide legal process or rules of a securities exchange, including disclosures of the type contemplated by Section 12.3(a)(iv), such disclosure shall not be deemed a breach of this Agreement; provided, that the recipient Party: (i) informs the disclosing Party as soon as reasonably practicable following it becoming aware of the required disclosure; (ii) uses reasonable efforts to limit the disclosure to the required purpose; and (iii) at the disclosing Party's request and expense, assists in attempting to object to or limit the required disclosure. In the event the recipient Party is required to disclose Confidential Information of the disclosing Party pursuant to Sections 12.3(a)(i)-(iii), the recipient Party shall take reasonable measures to assure confidential treatment of such Confidential Information to the extent practicable and available under Applicable Law.

12.4 Terms of this Agreement. Except as provided in Sections 12.2 and 12.3, each of the Parties agrees not to disclose to any Third Party the terms and conditions of this Agreement without first obtaining, in each case, the prior written consent of the other Party, except that either Party may disclose this Agreement to its Affiliates, licensors, licensees, or sublicensees and their respective employees, directors, agents, contractors, consultants, and advisers as permitted in this Article 12, and to bona fide potential or actual investors or acquirers in connection with the evaluation of such potential or actual investment or acquisition, provided that any such Person is bound prior to disclosure to obligations of confidentiality and non-use consistent with the confidentiality provisions of this Agreement and provided further that such Confidential Information will be disclosed only to the extent reasonably necessary to evaluate the proposed transaction or perform its obligations or exercise its rights granted under the Agreement.

12.5 Data Privacy and Security.

(a) **Compliance with Privacy and Data Security Laws.** Each of the Parties agree to comply in all material respects with applicable Privacy and Data Security Laws. To the extent that the California Consumer Privacy Act of 2018 ("**CCPA**") is applicable to either Party: (i) such Party agrees to comply with all of its obligations under the CCPA; and (ii) in relation to any communication of "personal information" (as defined by the CCPA) from one Party to the other Party pursuant to this Agreement, the Parties agree that no monetary or other valuable consideration is being provided for such personal information and therefore neither Party is "selling" (as defined by the CCPA) personal information to the other Party.

(b) **Protections**. Notwithstanding anything to the contrary herein, the Parties acknowledge that in performing their obligations hereunder, each Party will obtain or have access to, or otherwise store, process or transmit, certain Sensitive Information. Without limiting a Party's other obligations under this Agreement, each Party shall implement and maintain reasonable security procedures and practices appropriate to the nature of Sensitive Information and take such other actions as are necessary to protect the security and confidentiality of such Sensitive Information against any anticipated or actual threats or hazards to the security or integrity of such Sensitive Information in accordance with Privacy and Data Security Laws, which shall, at a minimum, include the following precautions and safety measures: (i) [***]; (ii) [***]; (iii) [***]; (iv) [***], (v) [***], and (vi) [***].

(c) **Breaches**. In the event that a Party or its Affiliates or sublicensee learns of, or has reason to believe that there has been unauthorized access to or use of, or any security breach relating to or affecting, Sensitive Information of the other Party collected, prepared or developed in connection with this Agreement, or that any person who has had access to Sensitive Information has violated or intends to violate the terms of this Section 12.5, such Party shall immediately (within [***]) notify the owning Party of the same, and shall, at its expense, fully cooperate with the owning Party in (i) investigating and responding to the foregoing; (ii) notifying affected individuals as required by Privacy and Data Security Laws or as otherwise directed by the owning Party; and (iii) seeking injunctive or other equitable relief against any such person or persons who have violated or attempted to violate the security of Sensitive Information. The Party whose Sensitive Information has been breached (or allegedly breached) shall have the sole right to determine the content, timing and other details of any notices under subsection (ii). The Party who, themselves, or through their Affiliates or sublicensees has conducted or permitted to be conducted such breach shall be responsible for reimbursing the Party owning such Sensitive Information for the costs of such notifications and fielding feedback and questions from those notified, and any other associated costs that such Party may incur in connection with responding to or managing a breach of the security of Sensitive Information (i.e., costs of credit monitoring services, call center services and forensics services, fines imposed by any government authority, fraud liability, compromise fees and other remediation costs).

(d) **Changes to the Agreement.** If during the Term a Party believes that amendments to this Agreement are required to ensure the compliance of each Party with the requirements of applicable Privacy and Data Security Laws, such Party shall notify the other Party and the Parties will promptly discuss and agree in good faith on appropriate amendments to this Agreement. Notwithstanding anything to the contrary, no Party shall be required to transfer to or process on behalf of the other Party any personal data until such amendments have been executed if such Party reasonably believes such transfer or processing would put such Party in breach of applicable Privacy and Data Security Laws.

13. PUBLICATIONS AND PUBLICITY

13.1 Use of Names. Neither Party shall use the name or Trademark of the other Party or its Affiliates in any press release, publication, or other form of public disclosure without first obtaining, in each case, the prior written consent of the other Party (such consent not to be unreasonably withheld, conditioned, or delayed), except for those disclosures for which consent has already been obtained or which are required by Applicable Law. Notwithstanding the foregoing, NVS will be entitled to use the name of Pliant and its Affiliates to the extent necessary or useful in connection with the Development or Commercialization of any Product subject to Pliant's prior written consent to the use by NVS of any Pliant Trademarks.

13.2 Press Releases and Publicity Related to this Agreement. Upon the execution of this Agreement, each Party may issue a press release with respect to this Agreement in a form agreed by the Parties. Neither Party shall issue any other press release or other public statement, whether oral or written, disclosing the existence of this Agreement, or the terms hereof, without first obtaining, in each case, the prior written consent of the other Party, such consent not to be unreasonably withheld, conditioned, or delayed, except for those disclosures for which consent has already been obtained or which are required by Applicable Law.

13.3 Public Disclosures and Publications Related to the Programs or Products. Subject to Section 13.2, any proposed public disclosure (whether written, electronic, oral, or otherwise) by or on behalf of Pliant shall require, in each case, the prior written consent of NVS. In the event that Pliant wishes to make a public disclosure pertaining to a Compound or Product, Pliant shall provide NVS with a copy of any proposed disclosure at least [***] days prior to submission of such disclosure, or in the case of an oral disclosure, [***] days prior to such oral disclosure. For the avoidance of doubt, NVS or any of its Affiliates or sublicensees may, without any required consents from Pliant, publish or have published information regarding the Research Programs, Research Targets, Compounds or Products.

13.4 Disclosures Required By Law. Notwithstanding Section 13.1, Section 13.2, and Section 13.3, each Party may make any disclosures required to comply with any duty of disclosure it may have pursuant to Applicable Law or the requirements of any Governmental Authority or Regulatory Authority or pursuant to the rules of any recognized stock exchange. In the event of a disclosure required by Applicable Law, the requirements of any Governmental Authority or Regulatory Authority, or the rules of any recognized stock exchange, the Parties shall coordinate with each other with respect to the timing, form, and content of such required disclosure. If so requested by the other Party, the Party subject to such obligation shall use reasonable efforts to obtain an order protecting to the maximum extent possible the confidentiality of such provisions of this Agreement as reasonably requested by the other Party. If the Parties are unable to agree on the form or content of any required disclosure, such disclosure shall be limited to the minimum required as determined by the disclosing Party in consultation with its legal counsel. Without limiting the foregoing, Pliant shall provide NVS with each proposed filing by Pliant with the United States Securities and Exchange Commission (or any recognized stock exchange, including Nasdaq, or any similar regulatory agency in any country other than the United States) describing the terms of this Agreement (including any filings of this Agreement) at least [***] Business Days prior to submission of such filing, and shall reasonably consider and in good-faith incorporate any and all of NVS's comments relating to such filing, including the provisions of this Agreement for which confidential treatment should be sought.

14. EFFECTIVENESS

14.1 Effective Date. Except for the Parties' obligations under Article 12, Article 13, this Article 14, Article 17, Article 16, Article 18, and Article 19 which shall be effective as of the Execution Date, this Agreement shall not become effective until expiration or early termination of all applicable waiting periods under the HSR Act (the "**Effective Date**").

14.2 Filings. The Parties shall cooperate with one another in the preparation and execution of all documents that are required to be filed pursuant to the HSR Act and each Party will file, as promptly as possible but in any event no later than [***] Business Days after the Execution Date, its pre-merger notification and report forms with the Federal Trade Commission and the U.S. Department of Justice, which forms shall specifically request early termination of the initial HSR Act waiting period. [***] associated with the submission under the HSR Act.

14.3 Outside Date. If the Effective Date has not occurred prior to [***] days after the Execution Date, or [***] days after the Execution Date in the event the Federal Trade Commission or U.S. Department of Justice issues any request for additional information and documentary materials, or such other date as the Parties may mutually agree either Party may terminate this Agreement upon written notice to the other Party; provided, however, that, as of such date, the Party terminating this Agreement is not in breach of this Agreement. In the event a provision of this Agreement needs to be deleted or substantially revised in order to obtain regulatory clearance of this transaction, the Parties will negotiate in good faith in accordance with Section 18.1 to reach agreement on the language contained in the particular provision in question.

14.4 Diligence. Subject to the terms and conditions of this Agreement, each of Pliant and NVS and its Affiliates shall use its Commercially Reasonable Efforts to obtain all authorizations, consents, orders and approvals under applicable Antitrust Laws that may be or become necessary to consummate the Agreement, including: (i) making all necessary filings and submission (and filings and submissions considered by NVS to be advisable) with any governmental authority pursuant to any Antitrust Laws as determined by NVS, as promptly as practicable, and (ii) obtaining as promptly as practicable the termination of any waiting period under any applicable Antitrust Laws.

15. TERM AND TERMINATION

15.1 Term. The term of this Agreement shall commence upon the Effective Date and, unless terminated pursuant to Section 15.2, shall continue in full force and effect, on a Product-by-Product and country-by-country basis, until such time as the Royalty Term with respect to such Product expires in such country (the "**Term**"). On a Product-by-Product and country-by-country basis, effective upon the expiration of the Royalty Term for such Product in such country, the licenses granted to NVS will each become non-exclusive, fully paid-up, royalty-free, irrevocable, and perpetual in such country with respect to such Product.

15.2 Termination. This Agreement may be terminated as follows:

(a) **Termination for Breach**.

(i) **General**. Subject to Section 15.2(a)(ii), if either NVS or Pliant is in material breach of any material obligation hereunder, the non-breaching Party may give written notice to the breaching Party specifying the claimed particulars of such breach, and in the event such material breach is not cured within [***] days after such notice (or in the case of any undisputed payment obligations, [***] days), the non-breaching Party shall have the right thereafter to terminate this Agreement immediately, in whole (in the event of material breach of this Agreement in its entirety) or with respect to a given Target, as applicable, by giving written notice to the breaching Party to such effect; provided, however, that if such breach is capable of being cured but cannot be cured within such [***]day period and the breaching Party initiates actions to cure such breach within such period and thereafter diligently pursues such actions, the breaching Party shall have such additional period as is reasonable under the circumstances to cure such breach (not to exceed a total of [***] days); it being understood that no such extension shall apply with respect to any undisputed payment obligations. Effective upon any such termination, such Target will be deemed a Terminated Target. If the Terminated Target is the Licensed Compound Target, then all Licensed Products that Inhibit such Terminated Target will be deemed, collectively, to be Terminated Products, and all Licensed Compounds that Inhibit such Terminated Target will be deemed, collectively, to be Terminated Compounds. If the Terminated Target is a Research Target, then all Research Products that bind specifically to, and thereby selectively modulate, such Terminated Target will be deemed, collectively, to be Terminated Products, and all Research Compounds or Selected Research Compounds, as applicable, that bind specifically to, and thereby selectively modulate, such Terminated Target will be deemed, collectively, to be Terminated Compounds. In the event that arbitration is commenced with respect to any alleged breach hereunder pursuant to Section 18.1, no purported termination of this Agreement pursuant to this Section 15.2(a)(i) shall take effect until the resolution of such arbitration.

(ii) **NVS Special Remedy**. In the event that NVS would have the right to terminate this Agreement under Section 15.2(a)(i), in whole or in part, for material breach by Pliant in connection with a Target, then NVS may, in its sole discretion, elect to either (A) exercise such termination right, or (B) in lieu of exercising such termination right, and without limiting NVS' rights otherwise set under this Agreement, maintain the licenses and other rights granted by Pliant to NVS under this Agreement in accordance with their respective terms, provided that: (I) NVS may terminate all licenses granted from NVS to Pliant with respect to the applicable Target (or all Targets), including any sublicenses granted thereunder; (II) NVS may terminate any review, comment, discussion, or approval rights granted to Pliant under this Agreement with respect to the relevant Target, in whole or in part, including rights at any Committee with respect to the relevant Target; (III) NVS may reduce NVS' Development and Commercialization reporting obligations (other than Sales & Royalty Reports) with respect to the Licensed Product(s) that Inhibit the relevant Target if such Target is the Licensed Compound Target, or with respect to the Research Product(s) that bind specifically to, and thereby selectively modulate, the relevant Target if such Target is a Research Target, to [***]; and (IV) any future payments owed by NVS to Pliant under Sections 10.3, 10.4 and 10.5 with respect to the Licensed Product(s) that Inhibit the relevant Target if such Target is the Licensed Compound Target, or with respect to the Research Product(s) that bind specifically to, and thereby selectively modulate, the relevant Target if such Target is a Research Target, will be applicable in accordance with the terms of this Agreement but will be reduced by [***] percent ([***]%). In addition, NVS will [***].

(b) **Termination for Insolvency**. This Agreement may be terminated in its entirety by a Party by providing written notice of termination to the other Party in the event of an Insolvency Event of the other Party.

(c) **Termination by NVS At Will**. NVS may terminate this Agreement at will at any time after the Effective Date in its entirety or on a Target-by-Target basis at any time on: (i) [***] days' prior written notice, if prior to the First Commercial Sale of any Licensed Product that Inhibits such Target that is the Licensed Compound Target, or if prior to the First Commercial Sale of any Research Product that binds specifically to, and thereby selectively modulates, such Target that is a Research Target; and (ii) on [***] months' prior written notice, if following the First Commercial Sale of any Licensed Product that Inhibits such Target that is the Licensed Compound Target, or if following the First Commercial Sale of any Research Product that binds specifically to, and thereby selectively modulates, such Target that is a Research Target. Effective upon any such termination, such Target will be deemed a Terminated Target. If the Terminated Target is the Licensed Compound Target, then all Licensed Products that Inhibit such Terminated Target will be deemed, collectively, to be Terminated Products, and all Licensed Compounds that Inhibit such Terminated Target will be deemed, collectively, to be Terminated Compounds. If the Terminated Target is a Research Target, then all Research Products that bind specifically to, and thereby selectively modulate, such Terminated Target will be deemed, collectively, to be Terminated Products, and all Research Compounds or Selected Research Compounds, as applicable, that bind specifically to, and thereby selectively modulate, such Terminated Target will be deemed, collectively, to be Terminated Compounds.

(d) **Diligence Confirmation.** In the event that Pliant, in good faith, questions whether NVS is exercising Commercially Reasonable Efforts with respect to its obligations under Section 6.1(d) or Article 9, Pliant may provide NVS with a written request, no more frequently than [***], for a description of the activities that NVS has performed pursuant to its obligations under Section 6.1(d) or Article 9, as applicable, during such [***]. Within [***] days of the receipt of such notice, NVS will provide Pliant with a written description of activities it has performed in fulfillment of its obligations to exercise Commercially Reasonable Efforts under Section 6.1(d) or Article 9. If, after receipt and review of such written description, Pliant continues in good faith to question whether NVS has exercised Commercially Reasonable Efforts with respect to its obligations under Section 6.1(d) or Article 9, within [***] days of receipt of such written description, Pliant may request that the Senior Officers of each Party discuss NVS's activities carried out pursuant Section 6.1(d) or Article 9. If after such discussion, Pliant in good faith believes that NVS has materially breached its obligation to use Commercially Reasonable Efforts under Section 6.1(d) or Article 9, then Pliant may exercise its rights pursuant to Section 15.2(a)(i).

15.3 Rights in Insolvency.

(a) The Parties agree that this Agreement constitutes an executory contract under Section 365 of the Code for the license of "intellectual property" as defined under Section 101 of the Code and constitutes a license of "intellectual property" for purposes of any similar laws in any other country in the Territory. The Parties further agree that NVS, as licensee of such rights under this Agreement, will retain and may fully exercise all of its protections, rights and elections under the Code, including under Section 365(n) of the Code, and any similar laws in any other country in the Territory. The Parties further agree that, in the event of an Insolvency Event by or against Pliant under the Code and any similar laws in any other country in the Territory, NVS will be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, and the same, if not already in its possession, will be promptly delivered to it: (i) upon any such commencement of an Insolvency Event upon its written request therefor, unless Pliant elects to continue to perform all of its obligations under this Agreement; or (ii) if not delivered under clause (i) above, following the rejection of this Agreement by or on behalf of Pliant upon written request therefor by NVS.

(b) All rights, powers and remedies of NVS provided for in this Section 15.3(b) are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at law or in equity (including under the Code and any similar laws in any other country in the Territory). In the event of an Insolvency Event in relation to Pliant, NVS, in addition to the rights, power and remedies expressly provided herein, shall be entitled to exercise all other such rights and powers and resort to all other such remedies as may now or hereafter exist at law or in equity (including under the Code). The Parties agree that they intend the following NVS rights to extend to the maximum extent permitted by law, including for purposes of the Code: (i) the right of access to any intellectual property (including all embodiments thereof) of Pliant or its Affiliates, or any Third Party with whom Pliant or its Affiliates contract to perform an obligation of Pliant under this Agreement that is necessary for the Development, Manufacture, or Commercialization of Products in the Territory; (ii) the right to contract directly with any Third Party described in (i) to complete the contracted work; and (iii) the right to cure any breach of or default under any such agreement with a Third Party and set off the costs thereof against amounts payable to Pliant under this Agreement, provided that NVS shall give Pliant [***] days' prior written notice before NVS commences to cure any such breach or default, and if Pliant resolves or cures such breach or default within such [***]-day period, then this subsection (iii) shall not apply with respect to such breach or default.

15.4 Effects of Termination. In the event that (a) a Party terminates this Agreement in its entirety or with respect to one or more Targets for the other Party's material breach pursuant to Section 15.2(a)(i); or (b) NVS terminates this Agreement at will in its entirety or with respect to one or more Targets pursuant to Section 15.2(c), then, in each case, effective solely as of the effective date of termination, the following provisions will apply with respect to the Terminated Target(s) (and, for clarity, with respect to all Terminated Compounds and Terminated Products for such Terminated Target), but excluding, in all cases, any other Active Ingredients contained in a Combination Product that is not itself a Terminated Compound or Terminated Product, as applicable:

(a) **Termination of Rights and Licenses**. Subject to Section 15.6, except as expressly set forth in this Agreement, all rights and licenses granted from one Party to the other Party hereunder will immediately terminate with respect to the Terminated Target (except as necessary to permit the other Party to perform its surviving obligations under this Article 15), including any sublicenses granted pursuant to Section 4.1(f).

(b) **Confidential Information.** Upon termination of this Agreement for any reason, the receiving Party will use Commercially Reasonable Efforts to destroy all written, electronic, or other materials containing Confidential Information of the disclosing Party provided to it by the disclosing Party in connection with this Agreement, including all copies thereof, within [***] days of such termination and provide certification of such destruction to the disclosing Party; provided that (i) the receiving Party may retain one copy in its archives solely for the purpose of monitoring its ongoing confidentiality obligations hereunder, and (ii) the receiving Party will not be obligated to destroy such materials containing Confidential Information of the disclosing Party that are necessary for the receiving Party to exercise any other license or right of the receiving Party that survives such termination of this Agreement; provided that the receiving Party's use of such Confidential Information of the disclosing Party will continue to be subject to the requirements and restrictions set forth in Article 12. Without limiting the foregoing, with respect to Confidential Information of Pliant that is stored in NVS' databases that, when used in accordance with database vendor's instructions, do not permit the deletion of such Confidential Information, NVS shall configure such databases to block unauthorized and inadvertent access to such Confidential Information.

(c) **Assignment of Regulatory Submissions**. NVS will (i) use Commercially Reasonable efforts to assign and transfer on an as-is, where-is basis to Pliant or its designee all of its rights, title, and interest in an to all Clinical Study data, Regulatory Materials (including drug master files), and Regulatory Approvals solely related to any Terminated Compounds and Terminated Products (A) owned or Controlled by NVS or any of its Affiliates or its Sublicensees as of the effective date of termination, (B) not already within Pliant's possession; and (C) to the extent permitted under Applicable Law; and (ii) take those steps reasonably necessary to transfer ownership of all such assigned Regulatory Materials and Regulatory Approvals to Pliant, including submitting to each applicable Regulatory Authority a letter or other necessary documentation notifying such Regulatory Authority of the transfer of such ownership of such Regulatory Approval. NVS shall reasonably cooperate, at no additional out-of-pocket cost to NVS, with reasonable requests by Pliant for reasonable assistance necessary to facilitate Pliant's assumption of regulatory responsibilities for such Terminated Compound or Terminated Product, if applicable, in the applicable countries in which direct transfer is not permitted.

(d) **License Grant to Pliant**. If Pliant terminates this Agreement with respect to one or more Targets for NVS' material breach pursuant to Section 15.2(a)(i), or if NVS terminates this Agreement with respect to one or more Targets pursuant to Section 15.2(c), NVS shall, and hereby does effective as of the effective date of such termination, grant to Pliant, (A) a royalty-bearing, non-exclusive license under the NVS Termination Technology to Develop, Manufacture and Commercialize Terminated Compounds and Terminated Products that bind specifically to, and thereby selectively modulate, such Target in the Field; and (B) if a Terminated Product that binds specifically to, and thereby selectively modulates, such Target was being Commercialized as of the effective date of termination, a royalty-bearing, non-exclusive license under NVS Termination Trademark(s) solely for the purpose of Commercializing such Terminated Product; provided, however, that the Parties will [***], for a period of [***] days, and, if the Parties [***], then such [***]. Notwithstanding the foregoing, if NVS terminates this Agreement with respect to one or more Targets pursuant to Section 15.2(c) due to an Adverse Event with respect to such Target, then NVS shall discuss with Pliant in good faith for at least [***] days the grant of the license under this Section 15.4(d) by NVS to Pliant under the NVS Termination Technology and/or NVS Termination Trademark (as applicable) to Develop, Manufacture and Commercialize the applicable Terminated Product in the Field. If after such [***]-day period (or a longer time if mutually agreed by the Parties), [***] the Parties [***], then [***].

(e) **Inventory Sell-Off Period**. In the case of any such termination of this Agreement, NVS (with respect to the Terminated Products in the Territory), shall be entitled, for a period of [***] days after termination, to (i) complete Manufacture of work-in-progress, and (ii) continue conducting Commercialization activities being conducted by NVS hereunder as of such termination (if applicable), to the extent related to such Terminated Product in NVS's inventory as of such termination (or added to such inventory as a result of the completion described in clause (i)), provided that NVS fulfills its payment obligations under this Agreement in connection with such inventory sell-off. For clarity, from and after the expiration of such [***]-day period all rights and licenses granted to NVS hereunder (if applicable, with respect to the terminated country(ies)) shall terminate (except as necessary to permit NVS to perform its obligations under this Article 15).

(f) **Transition Assistance**. With regard to Terminated Products, NVS shall provide the following transitional assistance, with costs allocated as set forth below:

(i) To the extent NVS has the right to do so, NVS shall promptly provide Pliant with a copy of each license agreement, collaboration agreement or vendor agreement then effective between NVS (or its Affiliates) and a Third Party that exclusively relates to any Terminated Product, or the Development, Manufacture and Commercialization thereof, and, upon Pliant's request, to the extent NVS has the right to do so, NVS shall assign or sublicense, and shall ensure that its Affiliates assign or sublicense, to Pliant any such agreement(s). If NVS does not have the right to make such assignment or grant such sublicense, NVS will provide Pliant with contact information for such Third Party so that Pliant may pursue an agreement directly with such licensor, collaborator or vendor with respect to Terminated Products.

(ii) NVS shall, at Pliant's request and cost, for a period not to exceed [***] months following the effective date of termination, to the extent not already provided to Pliant, transfer copies of (including when available, in electronic format) all Know-How Controlled by NVS that is necessary for the Development, Manufacture or Commercialization of Terminated Products to Pliant or its designee, including without limitation: [***], in each case to the extent such materials are related to the Terminated Product.

(iii) At the end of the sell-off period set forth in Section 15.4(e), NVS shall transfer to Pliant, at Pliant's cost, any and all inventory of Terminated Products (including all [***]) then in the possession of NVS, its Affiliates or sublicensees, and [***] for a reasonable period of time until Pliant can assume responsibility for such activities. All such inventory shall be purchased by Pliant [***].

(iv) If at the time of such termination, Pliant or its Affiliates are not Manufacturing a particular Terminated Product, then, at Pliant's request, which request shall be made by written notice to NVS no later than [***] days after the effective date of termination, the Parties will negotiate in good faith a supply agreement under which NVS will supply to Pliant such quantities of Terminated Product until [***]**.** In addition, upon any such termination, any Clinical Supply Agreement (and associated Clinical Quality Assurance Agreement) for such Terminated Product shall terminate.

(v) If at the time of such termination, NVS or its Affiliates are conducting any Clinical Studies (including registrational Clinical Studies) of a Terminated Product, then, at Pliant's election and cost on a trial-by-trial basis, NVS shall cooperate, and shall ensure that its Affiliates cooperate, with Pliant to transfer the conduct of all such Clinical Studies to Pliant within [***] days after the effective date of such transfer (to the extent practical in light of applicable regulatory and patient safety concerns) and Pliant shall assume any and all liability, and is liable, for such Clinical Studies conducted after the effective date of such termination (except to the extent NVS has an obligation of indemnification under Section 17.2 existing for a claim that arose prior to the effective date of such termination). If Pliant does not elect to assume control of any such Clinical Studies, then NVS will, in accordance with accepted pharmaceutical industry norms and ethical practices, wind-down any on-going Clinical Studies of Terminated Products for which it has responsibility hereunder for which FPFD has taken place. NVS will be responsible for any costs associated with such wind down.

(vi) If at the time of such termination, NVS or its Affiliates are Commercializing a particular Terminated Product, then, at Pliant's request, the Parties shall negotiate in good faith a transition services agreement to cover detailing and promotion of such Terminated Product (in the same manner and no more extensive than the then-current detailing and promotional efforts of NVS) by NVS or its Affiliate or contract sales force pursuant to a transition plan agreed by the Parties for a period not to exceed [***] months, and Pliant shall pay NVS a commercially reasonable amount to conduct such activities (which amount would include a commercially reasonable per-detail rate).

15.5 Survival. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination. Subject to the other terms and conditions regarding the termination and survival of obligations under this Agreement in the event of expiration or termination of this Agreement, upon expiration or termination of this Agreement, all provisions of this Agreement will cease to have any effect, except that the following provisions will survive any such expiration or termination for any reason for the period of time specified therein, or if not specified, then they will survive indefinitely: Sections 1.1; 3.5(d)(i); 3.10; 6.1(h)(iv); 10.1, 10.2, 10.3(e), 10.4(c), 10.9 and 10.11 (in each case, solely to the extent payments accrued but remain unpaid as of the effective date of termination); 10.12; 11.1; 15.3 (solely to the extent that the Agreement is terminated pursuant to Section 15.2(b)); 15.4-15.6; 17.1-17.7; 19.1-19.8; 19.10-19.13; and Articles 13 and 18. Notwithstanding the foregoing, each Party's non-use and non-disclosure obligations under Article 12 shall survive expiration or termination of this Agreement for a period of [***] years.

15.6 Termination Not Sole Remedy. Termination is not the sole remedy under this Agreement and, whether or not termination is effected and notwithstanding anything contained in this Agreement to the contrary, all other remedies will remain available except as agreed to otherwise herein. For clarity, where NVS seeks recovery from Pliant of any Damages it has suffered as a result of Pliant's breach, NVS may elect to offset such Damages finally awarded to NVS against any future payments due to Pliant hereunder, without any floor.

16. REPRESENTATIONS, WARRANTIES AND COVENANTS

16.1 Representations and Warranties by Each Party. Each Party represents and warrants to the other Party, that as of the Execution Date:

(a) such Party is a company duly organized, validly existing, and in good standing under the laws of its jurisdiction of formation or incorporation;

(b) such Party has full power and authority to execute, deliver, and perform this Agreement, and has taken all action required by Applicable Law and its organizational documents to authorize the execution and delivery of this Agreement by such Party and the performance of all obligations of such Party as contemplated by this Agreement;

(c) this Agreement constitutes a legal, valid, and binding agreement enforceable against such Party in accordance with its terms;

(d) all consents, approvals and authorizations from all Governmental Authorities or other Third Parties required to be obtained by such Party in connection with entering into this Agreement have been obtained , except as required pursuant to the HSR Act;

(e) all of such Party's and its Affiliates' employees, officers, and consultants: (i) have executed agreements or have existing obligations under Applicable Law requiring assignment to such Party or its Affiliates of all inventions made during the course of and as the result of their association with such Party or its Affiliates, as applicable, and obligating the individual to assign to such Party or its Affiliate, as applicable, all rights in all Inventions made during the course of performance under this Agreement; (ii) with respect to Pliant, are not subject to any agreement with any other Third Party that requires such officer or employee or consultant to assign any interest in any Pliant Technology to such Third Party; and

(iii) have executed agreements or have existing obligations under Applicable Law obligating the individual to maintain as confidential such Party's Confidential Information as well as confidential information of other parties (including of NVS and its Affiliates or Pliant and its Affiliates, as applicable) that such individual may receive in its performance under this Agreement, to the extent required to support such Party's obligations under this Agreement;

(f) none of such Party, its Affiliates, or any employee, agent or, to Pliant's knowledge, subcontractor of Pliant or its Affiliates involved in the Research, Development, or Manufacture of the Licensed Product(s), has been Debarred or are Debarred; and

(g) the execution and delivery of this Agreement and all other instruments and documents required to be executed pursuant to this Agreement, and the consummation of the transactions contemplated hereby do not and shall not: (i) conflict with or result in a breach of any provision of its organizational documents; (ii) result in a breach of any agreement to which it is a party; or (iii) violate any Applicable Law.

16.2 Representations and Warranties by Pliant. Pliant represents and warrants to NVS that, as of the Execution Date:

(a) Pliant has the right and authority to: (i) grant the licenses granted to NVS under the Pliant Patents and Pliant Know-How hereunder; and (ii) use, disclose, and commercially exploit, and to enable NVS to use, disclose, and commercially exploit, the Pliant Know-How free from Encumbrances;

(b) Pliant has not: (i) granted to any Affiliate or Third Party, including any academic organization or agency or other Person, any rights to the Licensed Compounds or Licensed Products; or (ii) granted any Affiliate or any Third Party rights that would otherwise interfere or be inconsistent with NVS's rights hereunder, nor are there are any agreements or arrangements to which Pliant or any of its Affiliates is a party relating to Product(s), Pliant Patents, or Pliant Know-How that would limit the rights granted to NVS under this Agreement or that would restrict or will result in a restriction on NVS's ability to Research, Develop, Manufacture, or Commercialize the Product(s) in the Territory;

(c) the Pliant Technology comprises all of the Intellectual Property Rights Controlled by and used by Pliant, its Affiliates, and consultants in the Research, Development, and Manufacturing of the Licensed Compounds and Licensed Products prior to the Effective Date;

(d) Exhibit C sets forth a complete and accurate list of: (i) all Pliant Patents in existence as of the Execution Date, indicating the owner, licensor or co-owner(s) thereof if such Pliant Patent is not solely owned by Pliant or its Affiliates; and (ii) the owner, licensor or co-owner(s) thereof of any Pliant Know-How that is not solely owned by Pliant or its Affiliates;

(e) Pliant or its Affiliate is the sole and exclusive owner of all of the Pliant Patents identified on Exhibit C as solely owned by Pliant or its Affiliate, free from Encumbrances and is listed in the records of the appropriate Governmental Authorities as the sole and exclusive owner of record for each registration, grant and application included in the Pliant Patents;

(f) (i) the issued patents in the Pliant Patents are valid and enforceable without any Claims, challenges, oppositions, nullity actions, interferences, inter-partes reexaminations, inter-partes reviews, post-grant reviews, derivation proceedings, or other proceedings pending or threatened, and Pliant or its Affiliate has filed and prosecuted patent applications within the Pliant Patents in good faith and complied with all duties of disclosure with respect thereto; (ii) neither Pliant nor any Affiliate has committed any act, or failed to commit any act, that may cause the Pliant Patents to expire prematurely or be declared invalid or unenforceable; and (iii) all application, registration, maintenance and renewal fees in respect of the Pliant Patents that have become due as of the Execution Date have been paid, and all necessary documents and certificates have been filed with the relevant agencies for the purpose of maintaining the Pliant Patents;

(g) Exhibit H sets forth a complete and accurate list of all license, assignment, or other agreements relating to the Pliant Patents and Pliant Know-How, including all Third Party Licenses entered into by Pliant or its Affiliates as of the Execution Date; and: (i) and no such Third Party License includes any obligations that restrict or conflict with the practice of the licenses granted by Pliant hereunder; (ii) correct and complete copies of each such Third Party License set forth on Exhibit H have been provided to NVS; and (iii) Pliant and its Affiliates are, and to Pliant's knowledge, each Upstream Party to a Third Party License is, in compliance with all such Third Party Licenses;

(h) Pliant and its Affiliates have obtained from all individuals who participated in any respect in the invention or authorship of any Pliant Technology effective assignments of all ownership rights of such individuals in such Pliant Technology, either pursuant to written agreement or by operation of law; and no Person who claims to be an inventor of an invention claimed in a Pliant Patent is not identified as an inventor of such invention in the filed patent documents for such Pliant Patent;

(i) Pliant and its Affiliates have taken commercially reasonable precautions to preserve the confidentiality of Pliant Know-How and no structure of any Licensed Compound or Licensed Product has been publicly disclosed or provided or made available to any Third Parties, including to any academic institutions or journals;

(j) to Pliant's knowledge, the Research, Development, Manufacture, or Commercialization of the Licensed Products do not infringe the Patents or misappropriate the Know-How of any Third Party, nor has Pliant or any of its Affiliates or licensees or sublicensees of any Pliant Technology received any written notice alleging such infringement or misappropriation;

(k) to Pliant's knowledge, the Research, Development, Manufacture, or Commercialization of compounds directed to the Candidate Targets do not infringe the Patents or misappropriate the Know-How of any Third Party, nor has Pliant or any of its Affiliates or licensees or sublicensees of any Pliant Technology received any written notice alleging such infringement or misappropriation;

(l) Pliant and its Affiliates are Manufacturing (or having Manufactured) Licensed Compounds and Licensed Products in accordance with Applicable Law, and Pliant and its Affiliates have the skills, experience, licenses, and resources to provide Clinical Supply of Licensed Product in accordance with this Agreement;

(m) to Pliant's knowledge, there are no judgments, orders, decrees, or settlements against or owed by Pliant or any of its Affiliates, and there is no written action or proceeding (excluding ordinary course patent proceedings) of any nature, civil, criminal, regulatory or otherwise, pending or, to the knowledge of Pliant, threatened against Pliant or any of its Affiliates, in each case relating to the Pliant Technology or the transactions contemplated by this Agreement;

(n) none of Pliant, its Affiliates, or, to Pliant's knowledge, their licensees or sublicensees of any Pliant Technology, have initiated or been involved in any proceeding or other Claims in which it alleges that any Third Party is or was infringing or misappropriating any Pliant Technology, nor have any such proceedings been threatened by Pliant, its Affiliates, or, to Pliant's knowledge, their licensees or sublicensees, nor does Pliant or its Affiliates know of any valid basis for any such proceedings;

(o) no funding, facilities or personnel of any Governmental Authority or any public or private educational or research institutions were used to develop or create any Pliant Technology, and none of Pliant, its Affiliates, or licensees or sublicensees of any Pliant Technology have entered into a government funding relationship that would result in rights to any Product residing in the U.S. Government, National Institutes of Health, National Institute for Drug Abuse or other agency, and the licenses granted hereunder are not subject to overriding obligations to the U.S. Government as set forth in Public Law 96-517 (35 U.S.C. §§ 200-204), or any similar obligations under the laws of any other country; and

(p) there are no royalties, fees, honoraria, or other payments payable by NVS or any of its Affiliates or sublicensees under any Third Party Licenses to which Pliant is a party by reason of the exercise of the licenses granted hereunder.

16.3 Mutual Covenants.

(a) **Compliance**. Each Party will and will cause its Affiliates to comply with all Applicable Law in the Research, Development, Manufacture and Commercialization of the Products and performance of its obligations under this Agreement.

(b) **No Debarred Person**. In the course of the Research, Development, Manufacture and Commercialization of the Products, neither Party nor its Affiliates or sublicensees shall use any employee or consultant who is or has been a Debarred Person, or, to such Party's or its Affiliate's knowledge, is the subject of debarment proceedings by a Regulatory Authority. Each Party shall notify the other Party promptly upon becoming aware that any of its or its Affiliates' or sublicensees' employees or consultants has become a Debarred Person or is the subject of debarment proceedings by any Regulatory Authority.

16.4 Covenants of Pliant.

(a) **Conflicting Transactions**. Pliant will not, and will cause its Affiliates not to: (i) grant any interest in any Pliant Technology or any Joint Patents or Joint Technology that is inconsistent in any material respect with the terms and conditions of this Agreement; (ii) grant to any Third Party, including any academic organization or agency, any rights to any Products except to the extent set forth in a Research Plan or Development Plan (subject to Sections 3.2 and 6.1(b)); or (iii) incur or permit to incur, any Encumbrances on the Pliant Technology or any Joint Patents or Joint Technology. Pliant will, and will cause its Affiliates to, use all reasonable precautions to preserve the confidentiality of any Pliant Know-How that has not be publicly disclosed prior to the Execution Date.

(b) **Existing Third Party Licenses.** Pliant will, and will cause its Affiliates to: (i) maintain Control of all Patents and Know-How sublicensed to NVS under each Third Party License to which Pliant or its Affiliates is a party; (ii) not breach or be in default under any Third Party License to which Pliant or its Affiliates is a party under which Pliant Controls Pliant Technology in a manner that would permit the counterparty thereto to terminate such Third Party License or otherwise diminish the scope or exclusivity of the sublicenses granted to NVS under the Pliant Technology; and (iii) not terminate or breach any Third Party License to which Pliant or its Affiliates is a party in a manner that would terminate rights that are sublicensed to NVS or otherwise diminish the scope or exclusivity of the licenses granted to NVS under the Pliant Technology. In the event that Pliant or its Affiliate receives notice of an alleged breach by Pliant or its Affiliates under any such Third Party License, where termination of such Third Party License or any diminishment of the scope or exclusivity of the sublicenses granted to NVS under the Pliant Technology is being or could reasonably be sought by the Upstream Party, then Pliant will promptly, but in no event less than [***] days thereafter, provide written notice thereof to NVS and grant NVS the right (but not the obligation) to either cure such alleged breach or to enter into a direct license with such Upstream Party.

Pliant will not, and will cause its Affiliates not to, amend any Third Party License to which Pliant or its Affiliates is a party in any manner that adversely affects NVS' exclusive rights to Research, Develop, Manufacture or Commercialize any Products pursuant to this Agreement without first obtaining, in each case, NVS's prior written consent.

(c) **New Third Party Licenses.** Pliant will, and will cause its Affiliates to: (i) not enter into any agreement with a Third Party that conflicts with (A) the rights granted to NVS hereunder, or (B) Pliant's ability to fully perform its obligations hereunder; (ii) not enter into any agreements that would impose additional obligations or liabilities on NVS without NVS' prior written consent; and (iii) promptly furnish NVS with complete and correct copies of all (A) amendments to any existing Third Party Licenses, and (B) new Third Party Licenses entered into in accordance with this Section 16.4(c), in each case ((A) and (B)), executed following the Execution Date.

(d) **Patent Exhibit**. Pliant will, upon NVS's reasonable request, update the list of Pliant Patents on Exhibit C to reflect any additional Patent included within Pliant Technology.

16.5 No Other Warranties. EXCEPT AS EXPRESSLY STATED HEREIN, (A) NO REPRESENTATION, CONDITION OR WARRANTY WHATSOEVER IS MADE OR GIVEN BY OR ON BEHALF OF NVS OR PLIANT; AND (B) ALL OTHER CONDITIONS AND WARRANTIES WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING ANY CONDITIONS AND WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

17. INDEMNIFICATION; LIABILITY; INSURANCE

17.1 Indemnification by Pliant. Pliant shall indemnify and hold NVS, its Affiliates and sublicensees, and their respective officers, directors, employees and agents ("**NVS Indemnitees**") harmless from and against Damages arising out of or resulting from any Claims of Third Parties against them to the extent arising or resulting from:

(a) Subject to any Supply Agreement, Pliant's, or any of its Affiliates', sublicensees' or contractors' actions in connection with the Research, Development Manufacture or Commercialization of Compounds and Products prior to or, as to Terminated Products, after the Term;

(b) the negligence or willful misconduct of any Pliant Indemnitee or contractor in connection with this Agreement; or

(c) the breach of any of the covenants, agreements, warranties or representations made by Pliant to NVS under this Agreement;

provided, however, that Pliant shall not be obliged to so indemnify and hold harmless the NVS Indemnitees for any Claims for which NVS has an obligation to indemnify Pliant Indemnitees pursuant to Section 17.2.

17.2 Indemnification by NVS. NVS shall indemnify and hold Pliant, its Affiliates, and their respective officers, directors, employees and agents ("**Pliant Indemnitees**") harmless from and against Damages arising out of or resulting from any Claims of Third Parties against them to the extent arising or resulting from:

(a) Subject to any Supply Agreement, NVS's, or any of its Affiliates', sublicensees' or contractors' actions in connection with the Research, Development, Manufacture, or Commercialization of Compounds and Product(s) during the Term;

(b) the negligence or willful misconduct of any NVS Indemnitee or contractor in connection with this Agreement; or

(c) the breach of any of the covenants, agreements, warranties or representations made by NVS to Pliant under this Agreement;

provided, however, that NVS shall not be obliged to so indemnify and hold harmless the Pliant Indemnitees for any Claims for which Pliant has an obligation to indemnify NVS Indemnitees pursuant to Section 17.1.

17.3 Indemnification Procedure.

(a) For the avoidance of doubt, all indemnification claims in respect of an NVS Indemnitee or Pliant Indemnitee shall be made solely by NVS or Pliant, respectively.

(b) A Party seeking indemnification hereunder (the "**Indemnified Party**") shall notify the other Party (the "**Indemnifying Party**") in writing reasonably promptly after the assertion against the Indemnified Party of any Claim or fact in respect of which the Indemnified Party intends to base a claim for indemnification hereunder (an "**Indemnification Claim Notice**"); provided, that the failure or delay to so notify the Indemnifying Party shall not relieve the Indemnifying Party of any obligation or liability that it may have to the Indemnified Party, except to the extent that the Indemnifying Party demonstrates that its ability to defend or resolve such Claim is adversely affected thereby. The Indemnification Claim Notice shall contain a description of the Claim and the nature and amount of the Claim (to the extent that the nature and amount of such Claim is known at such time). Upon the request of the Indemnifying Party, the Indemnified Party shall furnish promptly to the Indemnifying Party copies of all correspondence, communications, and official documents (including court documents) received or sent in respect of such Claim.

(c) Subject to Section 17.3(d) and Section 17.3(e), the Indemnifying Party shall have the right, upon written notice given to the Indemnified Party within [***] days after receipt of the Indemnification Claim Notice [***], to assume the defense and handling of such Claim, at the Indemnifying Party's sole expense, in which case Section 17.3(d) shall govern. The assumption of the defense of a Claim by the Indemnifying Party shall not be construed as acknowledgement that the Indemnifying Party is liable to indemnify any Indemnitee with respect to the Claim, nor shall it constitute a waiver by the Indemnifying Party of any defenses it may assert against any Indemnified Party's claim for indemnification. In the event that it is ultimately decided that the Indemnifying Party is not obligated to indemnify or hold an Indemnitee harmless from and against the Claim, the Indemnified Party shall reimburse the Indemnifying Party for any and all reasonable documented costs and expenses (including reasonable attorneys' fees and costs of suit) and any losses incurred by the Indemnifying Party in its defense of the Claim. If the Indemnifying Party does not give written notice to the Indemnified Party, within [***] days after receipt of the Indemnification Claim Notice, of the Indemnifying Party's election to assume the defense and handling of such Claim [***], Section 17.3(e) shall govern.

(d) Upon assumption of the defense of a Claim by the Indemnifying Party [***]: (i) the Indemnifying Party shall have the right to and shall assume sole control and responsibility for defending and handling the Claim; (ii) the Indemnifying Party may, at its own cost, appoint as counsel in connection with conducting the defense and handling of such Claim any law firm or counsel reasonably selected by the Indemnifying Party; (iii) the Indemnifying Party shall keep the Indemnified Party informed of the status of such Claim; and (iv) the Indemnifying Party shall have the right to settle such Claim on any terms the Indemnifying Party chooses; provided, however, that it shall not, without the prior written consent of the Indemnified Party (such consent not to be unreasonably withheld, conditioned, or delayed), agree to a settlement of any Claim which could lead to liability or create any financial or other obligation on the part of the Indemnified Party for which the Indemnified Party is not entitled to indemnification under this Agreement or which admits any wrongdoing or responsibility for the Claim on behalf of the Indemnified Party. The Indemnified Party shall cooperate with the Indemnifying Party and shall be entitled to participate in, but not control, the defense of such Claim with its own counsel and at its own expense. In particular, the Indemnified Party shall furnish such records, information, and testimony, provide witnesses, and attend such conferences, discovery proceedings, hearings, trials, and appeals as may be reasonably requested in connection therewith. Such cooperation shall include access during normal business hours by the Indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Claim, and making the Indemnified Party, the Indemnitees, and its and their employees and agents available on a mutually convenient basis to provide additional information and explanation of any records or information provided.

(e) If the Indemnifying Party does not assume the defense of the Indemnified Party in accordance with Section 17.3(c), the Indemnified Party may, at the Indemnifying Party's expense, select counsel reasonably acceptable to the Indemnifying Party in connection with conducting the defense and handling of such Claim and defend or handle such Claim in such manner as it may deem appropriate. In such event, the Indemnified Party shall keep the Indemnifying Party reasonably informed of the status of such Claim and shall not settle such Claim without the prior written consent of the Indemnifying Party, which consent shall not be unreasonably withheld, conditioned, or delayed. If the Indemnified Party defends or handles such Claim, the Indemnifying Party shall cooperate with the Indemnified Party, at the Indemnified Party's request but at no expense to the Indemnified Party and shall be entitled to participate in the defense and handling of such Claim with its own counsel and at its own expense.

(f) Neither Party shall have the obligation to indemnify the other Party in connection with any settlement made without the Indemnifying Party's written consent, which consent shall not be unreasonably withheld, conditioned or delayed. If the Parties cannot agree as to the application of Section 17.1 or Section 17.2 as to any Claim, pending resolution of such dispute, the Parties may conduct separate defenses of such Claims, with each Party retaining the right to claim indemnification from the other Party in accordance with Section 17.1 or Section 17.2 upon resolution of the underlying Claim.

17.4 Mitigation of Loss. Each Indemnified Party will take and will procure that its Affiliates take all such reasonable steps and action as are necessary or as the Indemnifying Party may reasonably require in order to mitigate any Claims (or potential Damages) under this Article 17. Nothing in this Agreement shall or shall be deemed to relieve any Party of any common law or other duty to mitigate any losses incurred by it.

17.5 Limited Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 17.5 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE: (A) INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 17.1 OR SECTION 17.2, OR (B) DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ITS [***] INTELLECTUAL PROPERTY OBLIGATIONS IN ARTICLE 11 OR CONFIDENTIALITY OBLIGATIONS IN ARTICLE 12; OR (C) DAMAGES AVAILABLE FOR A PARTY'S GROSS NEGLIGENCE, INTENTIONAL MISCONDUCT OR FRAUD. For the avoidance of doubt, neither Party excludes any liability for death or personal injury caused by its negligence or that of its employees, agents or sub-contractors.

17.6 Insurance Obligations. Each Party warrants that it has sufficient insurance to provide for the financial protection related to its liabilities and responsibilities emanating from this Agreement. The same protection can be provided by way of self-insurance to the same extent. Prior to enrollment of the first subject in a Clinical Study, the Party being the sponsor of the Clinical Study will ensure that appropriate coverage is in place according to the regulations of the country(ies) where the Clinical Study will be conducted. Each Party will furnish to the other Party evidence of such insurance upon request.

17.7 Disclaimer. The Parties each acknowledge and agree, that: (a) Research, Development, and Commercialization is inherently uncertain; (b) no outcome or success of any Products is or can be assured; and (c) failure to achieve Development and Commercialization of Products will not in and of itself constitute a breach or default of any obligation in this Agreement.

18. DISPUTE RESOLUTION

18.1 Dispute Resolution.

(a) **Dispute Resolution**. Subject to Sections 18.1(b), 18.3, and 18.5, any unresolved disputes between the Parties relating to the interpretation of this Agreement or any alleged breach, default or other non-compliance with this Agreement or any term or condition hereof, whether before or after termination of this Agreement, and which are not subject to Sections 5.7(c)-(d), shall be resolved by final and binding arbitration as follows:

(i) Whenever a Party decides to institute arbitration proceedings, it shall as promptly as practicable, give written notice to that effect to the other Party. Arbitration shall be held in New York, New York, and conducted according to the commercial arbitration rules of the International Chamber of Commerce ("**ICC Rules**"). The arbitration will be conducted by a panel of three arbitrators appointed in accordance with ICC Rules; provided, that: (A) each Party shall within [***] days after the institution of the arbitration proceedings appoint an arbitrator, and such arbitrators shall together, within [***] days, select a third arbitrator as the chairman of the arbitration panel; and (B) each arbitrator shall be conflict-free with respect to each Party and its Affiliates and any licensees or sublicensees of the Pliant Technology and have significant experience in the biopharmaceutical business. If either Party fails to appoint an arbitrator as provided above or the two (2) initial arbitrators are unable to select a third arbitrator within such [***]-day period, then such arbitrator(s) shall be promptly appointed in accordance with the ICC Rules.

(ii) The arbitrators shall render their opinion within [***] days of the final arbitration hearing. Decisions of the panel of arbitrators shall be based on the application of Governing Law in accordance with Section 18.2 and, absent manifest error, shall be final and binding on the Parties. Judgment on the award so rendered may be entered in any court of competent jurisdiction and the Parties hereby consent to the jurisdiction of such court for purposes of enforcement of such award. No arbitrator (nor the panel of arbitrators) shall have the power to award punitive damages under this Agreement and such award is expressly prohibited. Each Party shall pay its attorney's fees and the fees of its appointed arbitrator. The fees of the third arbitrator and the costs of the arbitration will be paid by the Parties as the arbitrators decide. The arbitrators shall award to the prevailing party, if any, as determined by the arbitrators, its reasonable attorneys' fees and costs, including the costs of the arbitration. Except in a proceeding to enforce the results of the arbitration or as otherwise required by Applicable Law, neither Party nor any arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both Parties.

(b) **Expert Resolution**. If a Party submits an unresolved dispute which is subject to the resolution mechanism set forth in this Section 18.1(b) ("**Expert Resolution**") such dispute shall be resolved by a group of [***] experts, each having significant experience and expertise in the pharmaceutical business (the "**Expert Committee**") as follows:

(i) The Parties shall set a date for a meeting of the Expert Committee (the "**Experts Meeting**"), which date shall be no more than [***] days after the date the Expert Resolution is initiated. The Experts Meeting shall be held in a location determined by the Expert Committee. [***] The Expert Resolution shall be [***]; accordingly, at least [***] days prior to the date of the Expert Resolution, [***]. The Experts Meeting shall consist of [***], in the form of [***].

(ii) No later than [***] days following the Experts Meeting, the Expert Committee shall issue their written decision. The Expert Committee shall [***]. The Expert Committee's decision shall be final and binding on the Parties and may be enforced in any court of competent jurisdiction. The Parties shall equally share the costs and expenses in connection with such Expert Resolution proceeding and the Expert Committee fees and expenses. Except in a proceeding to enforce the results of the arbitration or as otherwise required by Applicable Law, neither Party nor any arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both Parties.

18.2 Governing Law. This Agreement shall be governed by and construed under the laws of the State of New York, without giving effect to the conflicts of laws provision thereof ("**Governing Law**"). The United Nations Convention on Contracts for the International Sale of Goods (1980) shall not apply to the interpretation of this Agreement.

18.3 Exclusions. Nothing in this Section 18.3 shall preclude a Party from: (a) seeking and obtaining in any competent court injunctive or equitable relief to preserve the status quo or prevent immediate harm to the Party; or (b) submitting any dispute, controversy or Claim relating to the scope, validity, enforceability or infringement of any Patents or Trademarks to a court of competent jurisdiction, including before any patent or trademark administrative body, in the country in which such Patent or Trademark was granted or arose. Each Party hereby consents to the jurisdiction of such courts or administrative bodies for purposes of such relief and to service of process by delivery of notice pursuant to Section 19.7.

18.4 Cumulative Remedies. No remedy referred to in this Agreement is intended to be exclusive, but each shall be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under Applicable Law.

18.5 Injunctive Relief. Notwithstanding anything to the contrary set forth in this Agreement, the Parties each stipulate and agree that: (a) the other Party's Confidential Information and Intellectual Property Rights include highly sensitive trade secret information, (b) a breach of Section 4.4, Article 11, or Article 12 by a Party with respect to such information may cause irrevocable harm for which monetary damages would not provide a sufficient remedy; and (c) in the case of any such breach or threatened breach, the non-breaching Party will be entitled to seek equitable relief (including temporary or permanent restraining orders, specific performance or other injunctive relief) from any court of competent jurisdiction without first submitting to the dispute resolution procedures set forth in Section 18.1.

18.6 Waiver of Jury Trial. TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW THAT CANNOT BE WAIVED, THE PARTIES HEREBY WAIVE, AND COVENANT THAT THEY WILL NOT ASSERT (WHETHER AS PLAINTIFF, DEFENDANT OR OTHERWISE), ANY RIGHT TO TRIAL BY JURY IN ANY ACTION ARISING IN WHOLE OR IN PART UNDER OR IN CONNECTION WITH THIS AGREEMENT, WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE. THE PARTIES AGREE THAT ANY OF THEM MAY FILE A COPY OF THIS PARAGRAPH WITH ANY COURT AS WRITTEN EVIDENCE OF THE KNOWING, VOLUNTARY AND BARGAINED-FOR AGREEMENT AMONG THE PARTIES IRREVOCABLY TO WAIVE ITS RIGHT TO TRIAL BY JURY IN ANY PROCEEDING WHATSOEVER BETWEEN THEM RELATING TO THIS AGREEMENT WILL INSTEAD BE TRIED IN A COURT OF COMPETENT JURISDICTION BY A JUDGE SITTING WITHOUT A JURY.

19. GENERAL PROVISIONS

19.1 Assignment. Neither Party may assign its rights and obligations under this Agreement, in whole or part, without the other Party's prior written consent, except that either Party may, without such consent: (a) assign its rights and obligations under this Agreement or any part hereof to one (1) or more of its Affiliates; or (b) assign this Agreement in its entirety to a successor to all or substantially all of its business or assets to which this Agreement relates. In addition, NVS may, without the consent of Pliant, assign its rights and obligations, in whole or in part, under this Agreement to a Third Party, where NVS or its Affiliate is required, or makes a good faith determination based on advice of counsel, to divest any Products in order to comply with Applicable Law or the order of any Governmental Authority as a result of a merger or acquisition or similar transaction; provided that such Third Party has appropriate capabilities, resources, and funding to perform NVS' obligations under this Agreement. Any permitted assignee will assume all obligations of its assignor under this Agreement (or related to the assigned portion in case of a partial assignment). For clarity: (i) an assignment to an Affiliate will terminate, and all rights so assigned will revert to the assigning Party, if and when such Affiliate ceases to be an Affiliate of the assigning Party; and (ii) sublicensing of any licenses granted under this Agreement will be governed by Section 4.1(f). Any attempted assignment in contravention of the foregoing will be void. Subject to the terms of this Agreement, this Agreement will be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns. Notwithstanding anything to the contrary in this Agreement, in the event of any such assignment, the intellectual property rights of the assignee shall not be included in the technology licensed to the other Party hereunder to the extent held by such assignee prior to such transaction, or to the extent such technology is developed outside the scope of activities conducted under this Agreement.

19.2 Extension to Affiliates. Each Party may discharge any obligations and exercise any rights under this Agreement through delegation of its obligations or rights to any of its Affiliates. Each Party hereby guarantees the performance by its Affiliates of such Party's obligations under this Agreement, and will cause its Affiliates to comply with the provisions of this Agreement in connection with such performance. Any breach by a Party's Affiliate of any of such Party's obligations under this Agreement will be a breach by such Party, and the other Party may proceed directly against such Party without any obligation to first proceed against such Party's Affiliate.

19.3 Severability. Should one (1) or more of the provisions of this Agreement become void or unenforceable as a matter of law, then this Agreement shall be construed as if such provision were not contained herein and the remainder of this Agreement shall be in full force and effect, and the Parties will use their Commercially Reasonable Efforts to substitute for the invalid or unenforceable provision a valid and enforceable provision that conforms as nearly as possible with the original intent of the Parties.

19.4 Force Majeure. In the event that either Party is prevented from performing its obligations under this Agreement as a result of any contingency beyond its reasonable control ("**Force Majeure**"), including any actions of Governmental Authorities, war, terrorism, hostilities between nations, civil commotions, riots, national industry strikes, sabotage, shortages in supplies, energy shortages, fire, floods and acts of nature such as typhoons, hurricanes, earthquakes, or tsunamis, the Party so affected shall not be responsible to the other Party for any delay or failure of performance of its obligations hereunder, for so long as and to the extent that such Force Majeure prevents such performance. In the event of Force Majeure, the Party immediately affected thereby shall give prompt written notice to the other Party specifying the Force Majeure event complained of, and shall use Commercially Reasonable Efforts to resume performance of its obligations.

19.5 Waivers and Amendments. The delay or failure of any Party to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement shall not constitute a waiver of that right or excuse a similar subsequent failure to perform any such term or condition by the other Party, and no waiver shall be effective unless it has been given in writing and signed by the Party giving such waiver. No waiver by either Party of any condition or of the breach of any term contained in this Agreement, in any one (1) or more instances, will be deemed to be, or considered as, a further or continuing waiver of any such condition or of the breach of such term or any other term of this Agreement. No provision of this Agreement may be amended or modified other than by a written document signed by authorized representatives of each Party.

19.6 Relationship of the Parties. Nothing contained in this Agreement shall be deemed to constitute a partnership, joint venture, or legal entity of any type between Pliant and NVS, or to constitute one as the agent of the other. Moreover, each Party agrees not to construe this Agreement, or any of the transactions contemplated hereby, as a partnership for any tax purposes. Each Party shall act solely as an independent contractor, and nothing in this Agreement shall be construed to give any Party the power or authority to act for, bind, or commit the other.

19.7 Notices. All notices, consents, waivers, and other communications under this Agreement must be in writing, in the English language, and will be deemed to have been duly given when: (a) delivered by hand (with written confirmation of receipt); or (b) when received by the addressee, if sent by an internationally recognized overnight delivery service (receipt requested), in each case, to the appropriate addresses set forth below (or to such other addresses as a Party may designate by notice in accordance with this Section 19.7):

If to Pliant:

Pliant Therapeutics, Inc.
260 Littlefield Avenue
South San Francisco, CA 94080
Attn: Chief Business Officer

If to NVS:

Novartis Institutes for BioMedical Research, Inc.
250 Massachusetts Avenue
Cambridge, MA 02139
Attn: General Counsel

Any such notice shall be deemed to have been given on the Business Day received, subject to proof of receipt, as evidenced by the applicable courier's receipt (or if delivered or sent on a non-Business Day, then on the next Business Day).

19.8 Further Assurances. NVS and Pliant hereby covenant and agree without the necessity of any further consideration, to execute, acknowledge and deliver, and to cause to be executed, acknowledged, and delivered, any and all such other documents and take any such other action as may be reasonably necessary to carry out the intent and purposes of this Agreement.

19.9 Restricted Party; Restricted Country. During the Term, NVS will not, and will cause its Affiliates, licensees, and sublicensees not to, alone or with any third Parties (including through licensing any Third Party), Research, Develop, Manufacture, or Commercialize in a country or territory that is itself the subject or target of comprehensive economic or financial sanctions or trade embargoes (currently, Cuba, Iran, North Korea, Syria, and the Crimea region of Ukraine).

19.10 No Third Party Beneficiary Rights. The provisions of this Agreement are for the sole benefit of the Parties and their successors and permitted assigns, and they shall not be construed as conferring any rights to any Third Party (including any third party beneficiary rights), except with respect to certain NVS Indemnitees and certain Pliant Indemnitees, who are Third Parties, solely with respect to Article 17.

19.11 English Language. This Agreement is written and executed in the English language. Any translation into any other language shall not be an official version of this Agreement and in the event of any conflict in interpretation between the English version and such translation, the English version shall prevail.

19.12 Entire Agreement. This Agreement, together with its Exhibits, which are incorporated by reference herein, sets forth the entire agreement and understanding of the Parties as to the subject matter hereof and supersedes all agreements, proposals, oral or written, and all other prior communications between the Parties with respect to such subject matter. In the event of any conflict between a substantive provision of this Agreement and any Exhibit hereto, the substantive provisions of this Agreement shall prevail.

19.13 Counterparts. This Agreement may be executed in one (1) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Signature pages of this Agreement may be exchanged by email/pdf or other electronic means without affecting the validity thereof.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Agreement to be executed by their duly authorized representatives.

NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.	**PLIANT THERAPEUTICS, INC.**
By: /s/ Scott Brown	By: /s/ Bernard Coulie
Name: Scott Brown	Name: Bernard Coulie MD PhD
Title: Chief Administrative Officer and General Counsel	Title: Chief Executive Officer

Exhibit A
Licensed Compound

PLN-1474

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit B
Back-Up Compounds

[***]
[***]

[***]
[***]

[***]
[***]

[***]
[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit C
Pliant Patents

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit D

Initial Candidate Target Research Plan

1. [***]

[***]

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit E
Pliant Know-How

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit F

PLN-1474 Research and Development Plan

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit G
Invoice

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit H
Pliant Third Party Licenses

[***]

[***] Certain information in this document has been omitted from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.