

# 1,100,000 Shares of Common Stock Pre-Funded Warrants to Purchase 2,274,242 Shares of Common Stock

We are offering 1,100,000 shares of our common stock, 0.001 par value per share, and pre-funded warrants to purchase 2,274,242 shares of our common stock (and the shares of common stock underlying such pre-funded warrants) directly to an institutional investor pursuant to this prospectus supplement and the accompanying prospectus. The offering price of the shares and pre-funded warrants is 1.18 and 1.179, respectively (each being coupled with a private placement warrant). The pre-funded warrants will have an exercise price of 0.001 per share and will be exercisable upon issuance until exercised in full. In a concurrent private placement, we are also selling to the investors private placement pre-funded warrants to purchase an aggregate of 1,289,796 shares of common stock at an exercise price of 0.001 per share and private placement warrants to purchase of our common stock at an exercise price of 1.289,796 shares of common stock at an exercise price of 1.028,000 per share and private placement warrants to purchase 0.001 per share of our common stock at an exercise price of 1.289,796 shares of common stock at an exercise price of 1.289,796 shares of common stock at an exercise price of 1.028,000 per share and private placement warrants and the shares of common stock issuable upon the exercise of such warrants are not being registered under the Securities Act of 1933, as amended, or the Securities Act, and are not being offered pursuant to an exemption from the registration requirements of the Securities Act and Rule 506(b) promulgated thereunder. The private placement warrants will be immediately exercisable and will expire five years and six months from the issuance date.

Our common stock is listed on The NASDAQ Capital Market under the symbol "TTNP." On February 1, 2022, the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.14 per share.

As of the date of this prospectus supplement, the aggregate market value of our outstanding common stock held by non-affiliates, or our public float, was approximately \$13,046,445, based on 9,907,549 outstanding shares of common stock held by non-affiliates and a per share price of \$1.31, which was the closing price of our common stock on December 8, 2021and is the highest closing sale price of our common stock on The Nasdaq Capital Market within the prior 60 days. We have not sold any securities pursuant to General Instruction I.B.6. of Form S-3 during the prior 12 calendar month period that ends on and includes the date of this prospectus supplement.

# Investing in our common stock involves a high degree of risk. Before buying any of our securities, you should carefully read "Risk Factors" on page S-7 of this prospectus supplement, and under similar headings in the other documents that are incorporated by reference into this prospectus supplement and the accompanying prospectus.

We have engaged Maxim Group LLC to act as our exclusive placement agent in connection with this offering to use its reasonable best efforts to place the shares of common stock offered by this prospectus supplement. We have agreed to pay the placement agent the fees set forth in the table below.

	Per Share or Pre-	
	Funded Warrant	Total
Offering price (1)	\$ 1.18	\$ 3,979,331.32
Placement agent's fees (2)	\$ 0.083	\$ 278,553.19
Proceeds, before expenses, to us	\$ 1.097	\$ 3,700,778.13

(1) The purchase price of the pre-funded warrants is \$.001 less than the per share purchase price.

(2) In addition, we have agreed to reimburse the placement agent for certain offering-related expenses up to an aggregate of \$40,000. See "Plan of Distribution."

# Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement and the accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.

Delivery of the shares of common stock and pre-funded warrants being offered pursuant to this prospectus supplement and the accompanying prospectus is expected to be made on or about February 4, 2022, subject to customary closing conditions.

# MAXIM GROUP LLC The date of this prospectus supplement is February 2, 2022

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus supplement or the accompanying prospectus. You must not rely on any unauthorized information or representations. This prospectus supplement and the accompanying prospectus are an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement and the accompanying prospectus is current only as of their respective dates.

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# ABOUT THIS PROSPECTUS SUPPLEMENT

In April 2019, we filed with the SEC a registration statement on Form S-3 (File No. 333-230742) utilizing a shelf registration process relating to the securities described in this prospectus supplement, which registration statement was declared effective on April 24, 2019. Under this shelf registration process, we may, from time to time, sell up to \$50 million in the aggregate of shares of common stock, shares of preferred stock, debt securities and warrants.

This document consists of two parts. The first part is the prospectus supplement, including the documents incorporated by reference herein, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference therein, provides more general information. In general, when we refer only to the prospectus, we are referring to both parts of this document combined. Before you invest, you should carefully read this prospectus supplement, the accompanying prospectus, all information incorporated by reference herein and therein, as well as the additional information described under the heading "Where You Can Find More Information." These documents contain information you should carefully consider when deciding whether to invest in our securities.

This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent there is a conflict between the information contained in this prospectus supplement and the accompanying prospectus, you should rely on information contained in this prospectus supplement, provided that if any statement in, or incorporated by reference into, one of these documents is inconsistent with a statement in another document having a later date, the statement in the document having the later date modifies or supersedes the earlier statement. Any statement so modified will be deemed to constitute a part of this prospectus only as so modified, and any statement so superseded will be deemed not to constitute a part of this prospectus.

You should rely only on the information contained in this prospectus supplement, the accompanying prospectus, any document incorporated by reference herein or therein, or any free writing prospectuses we may provide to you in connection with this offering. Neither we nor the sales agent has authorized anyone to provide you with any different information. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may provide to you. The information contained in this prospectus supplement, the accompanying prospectus, and in the documents incorporated by reference herein or therein is accurate only as of the date such information is presented. Our business, financial condition, results of operations and prospects may have changed since that date.

This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the shares of common stock to which it relates, nor do this prospectus supplement and the accompanying prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

Securities offered pursuant to the registration statement to which this prospectus supplement relates may only be offered and sold if not more than three years have elapsed since April 24, 2019, the initial effective date of the registration statement, subject to the extension of this period in compliance with applicable SEC rules.

We note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreement, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless the context indicates otherwise, as used in this prospectus supplement, the terms "Titan," "Company," "we," "us" and "our" refer to Titan Pharmaceuticals, Inc. The Titan design logo and the marks "Titan," "Titan Pharmaceuticals," "Probuphine®" and "ProNeura®" are the property of Titan. This prospectus supplement contains additional trade names, trademarks and service marks of ours and of other companies. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

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# CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This prospectus supplement contains "forward-looking statements" that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus supplement, including statements regarding our future results of operations and financial position, strategy and plans, and our expectations for future operations, are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. We have attempted to identify forward-looking statements by terminology including "anticipates," "believes," "can," "continue," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "should," or "will" or the negative of these terms or their accuracy. Forward-looking statements included or incorporated by reference in this prospectus supplement or our other filings with the Securities and Exchange Commission, or the SEC, include,

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but are not necessarily limited to, those relating to uncertainties relating to:

- · our ability to raise capital when needed;
- · difficulties or delays in the product development process, including the results of preclinical studies or clinical trials;
- · financing and strategic agreements and relationships;
- · difficulties or delays in the regulatory approval process;
- adverse side effects or inadequate therapeutic efficacy of our drug candidates that could slow or prevent product development or commercialization;
- · dependence on third party suppliers;
- uncertainties relating to manufacturing, sales, marketing and distribution of our drug candidates that may be successfully developed and approved for commercialization;
- · the uncertainty of protection for our patents and other intellectual property or trade secrets; and
- competition.

These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including the risks outlined under "Risk Factors" or elsewhere in this prospectus supplement, which may cause our or our industry's actual results, levels of activity, performance or achievements expressed or implied by these forward-looking statements.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by which, that performance or those results will be achieved. Forward-looking statements are based on information available at the time they are made and/or management's good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from what is expressed in or suggested by the forward-looking statements.

Forward-looking statements speak only as of the date they are made. You should not put undue reliance on any forward-looking statements. We assume no obligation to update forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information, except to the extent required by applicable securities laws. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

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# PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about our company, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus, and in the documents we incorporate by reference. This summary is not complete and does not contain all the information that you should consider before investing in our common stock. You should read this entire prospectus supplement and the accompanying prospectus carefully, including the "Risk Factors" contained in this prospectus supplement beginning on page S-3, and the risk factors, financial statements and notes incorporated by reference herein, before making an investment decision. This prospectus supplement may add to, update or change information in the accompanying prospectus.

### **Our Company**

We are a pharmaceutical company developing therapeutics utilizing our proprietary long-term drug delivery platform, ProNeura®, for the treatment of select chronic diseases for which steady state delivery of a drug has the potential to provide an efficacy and/or safety benefit. ProNeura consists of a small, solid implant made from a mixture of ethylene-vinyl acetate, or EVA, and a drug substance. The resulting product is a solid matrix that is designed to be administered subdermally in a brief, outpatient procedure and is removed in a similar manner at the end of the treatment period. These procedures may be performed by trained health care providers, or HCPs, including licensed and surgically qualified physicians, nurse practitioners, and physician's assistants in a HCP's office or other clinical setting.

Our first product based on our ProNeura technology was Probuphine® (buprenorphine implant), which was approved in the United States, Canada and the European Union, or EU, for the maintenance treatment of opioid use disorder in clinically stable patients taking 8 mg or less a day of oral buprenorphine. While Probuphine continues to be commercialized in Canada and in the EU (as Sixmo<sup>TM</sup>) by other companies that have either licensed or acquired the rights from Titan, we discontinued commercialization of the product in the U.S. during the fourth quarter of 2020. Discontinuation of our commercial operations has allowed us to focus our limited resources on important product development programs and transition back to a product development company.

# **ProNeura Continuous Drug Delivery Platform**

Our ProNeura continuous drug delivery system consists of a small, solid rod-shaped implant made from a mixture of EVA and a drug substance. The resulting product is a solid matrix that is placed subdermally, normally in the inside part of the upper arm in a short physician office-based procedure and is removed in a similar manner at the end of the treatment period. The drug substance is released continuously through the process of dissolution-controlled diffusion. This results in a continuous, steady rate of release generally similar to intravenous administration. We believe that such long-term, near linear release characteristics are desirable as they avoid the fluctuating peak and trough drug levels seen with oral dosing that often poses treatment problems in a range of disease settings.

The ProNeura platform was developed to address the need for a simple, practical method to achieve continuous long-term drug delivery, and, depending on the characteristics of the compound to be delivered, can potentially provide treatment on an outpatient basis over extended periods of up to 12 months. We believe that the benefits of this technology have been demonstrated by the clinical results seen to date with Probuphine, and, in addition, that the development and regulatory process have been affirmed by the U.S. Food and Drug Administration, or FDA, the European Medicines Agency, or EMA, and Health Canada approvals of this product. We have further demonstrated the feasibility of the ProNeura platform with small molecules, hormones, and bio-active peptides. The delivery system works with both hydrophobic and hydrophilic molecules. We have also shown the flexibility of the platform by experimenting with the release characteristics of the EVA implants, layering the implants with varying concentrations of drug, and generating implants of different sizes and porosity to achieve a desired delivery profile. We have recently received a grant from the Bill and Melinda Gates Foundation to undertake preliminary work on a long-acting implant capable of delivering dual compounds- an human immunodeficiency virus, or HIV, preventative therapeutic and a contraceptive.

# **Development Programs**

Several years ago, we began limited non-clinical laboratory experiments in collaboration with JT Pharmaceuticals, Inc., or JT Pharma, to assess the feasibility of delivering JT Pharma's kappa opioid agonist peptide, or TP-2021, utilizing our ProNeura system. We successfully manufactured a prototype implant containing TP-2021 (TP-2021-ProNeura) to be used in appropriate small animal models. While our initial work focused on TP-2021's ability to activate peripheral kappa opioid receptors, potentially

providing a non-addictive treatment for certain types of pain, in January 2021, our research pivoted to explore the feasibility of using TP-2021 in the treatment of chronic pruritus, a severe and debilitating condition defined as itching of the skin lasting longer than six weeks. According to a 2015 review by Mollanazar, N., et al., an estimated 23 – 44 million Americans suffer from chronic pruritus in the setting of both cutaneous and systemic conditions. Current treatments include antihistamines, corticosteroids, and over-the-counter lotions, all of which are relatively ineffective and/or have undesirable side-effect profiles. The antipruritic effect of kappa opioid agonists is thought to be related to their binding to kappa opioid receptors on keratinocytes, immune cells, and peripheral itch neurons.

In February 2021, we announced that early non-clinical studies of TP-2021 showed very high affinity and specificity for the human kappa opioid receptor and demonstrated potent antipruritic activity when injected subcutaneously in a mouse model for moderate to severe pruritus. TP-2021 ProNeura implants were then formulated and tested in this model. In November 2021, data presented at the annual meeting of the Society for Neuroscience demonstrated that significant reduction in scratching behavior in this proven animal model for pruritus was maintained in mice who received the TP-2021ProNeura implant through Day 56 post-implantation, when compared with control untreated mice, with no safety issues observed for the implanted animals over the three-month duration of treatment. Subsequently, efficacy in this pruritus model has been extended through Day 84 post-implantation. In addition, the TP-2021 ProNeura implant provided sustained supra-therapeutic plasma levels of the peptide through Day 84 post-implantation in a separate pharmacokinetic study in mice. We believe that subdermal implantation of TP-2021- ProNeura could potentially deliver therapeutic concentrations of TP-2021 in human subjects for up to six months or longer following a single in-office procedure. We will need to conduct Investigational New Drug, or IND, enabling non-clinical safety and pharmacology studies in preparation for regulatory approval to enter human clinical studies.

Pursuant to a research and option license agreement with the Medical University of South Caroline Foundation for Research Development, we are also synthesizing a limited number of new peptides designed, like TP-2021, to bind to peripheral kappa opioid receptors. We will consider further development of any of these newly synthesized compounds that meet the criteria for high-affinity receptor bonding and antipruritic activity to enhance our intellectual property position. We are also assessing the feasibility of non-implant biodegradable depot formulations of these kappa opioid receptor agonist peptides to provide antipruritic activity for shorter (e.g. 1 - 3 months) sustained periods. We have allocated a substantial portion of the proceeds of this offering to fund our kappa opioid agonist peptide program through the IND submission, which we estimate can be accomplished within 18 to 24 months.

# Nalmefene Development Program

In September 2019, the National Institute for Drug Addiction, or NIDA, awarded us an approximately \$8.7 million grant over two years for our nalmefene implant development program for the prevention of opioid relapse following detoxification of patients suffering opioid use disorder, or OUD. An injectable formulation of nalmefene was approved by the FDA in 1995 for the management and reversal of opioid overdose, including respiratory depression, but this is no longer marketed in the U.S. Oral nalmefene was approved by the EMA in 2013 for treating alcohol dependence. A nasal formulation of nalmefene is currently in clinical development by another company for the treatment of opioid overdose.

The NIDA grant provides funds for the completion of implant formulation development, cGMP manufacturing and non-clinical studies required for filing an Investigational New Drug application, or IND. In early 2020, following a meeting with the FDA to review our non-clinical development plans and obtain guidance regarding filing an IND, the FDA provided clear guidance on the type of development plan that we should follow. Specifically, that this product development should follow the more expansive 505(b)(1) regulatory pathway rather than the shorter, more streamlined 505(b)(2) regulatory pathway we had been pursuing. Based on this input, we determined that collection of all the requisite non-clinical chronic toxicology data would require an additional six-month rodent chronic toxicity study and a three month increase in the duration of an ongoing sixmonth non-rodent chronic toxicity study, resulting in a delay of the IND filing. We discussed the change in development plan with NIDA and they accepted our plan to reallocate previously approved funds for conduct of such studies and extended the existing grant term through August 2022. In September 2021, the FDA advised that it was reconsidering the regulatory pathway for the nalmefene implant and could ultimately determine that the 505(b)(2) process is potentially appropriate. We expect to submit the IND for this program in Q1 2022. If accepted, we would be eligible for the third through fifth year grant funding from NIDA. However, this funding availability is dependent on a progress review at NIDA. Additional funding from external sources for progression of the clinical program will be separately sought but will be dependent on finding a suitable partner.

# Other programs

In October 2021, we received an approximately \$500,000 grant from the Bill and Melinda Gates Foundation to demonstrate the ability to deliver a combination HIV preventative therapeutic and a contraceptive from a single ProNeura implant for women and adolescent girls in low- and middle-income countries.

In October 2021, we entered into a research and option license agreement, or MUSC Agreement, with the MUSC Foundation for Research Development, or MUSC FRD. Under the terms of the MUSC Agreement, we will conduct certain research, evaluation, proof of concept development and testing of at least three tetrapeptide kappa-opioid receptor agonist compounds related to the provisional U.S. patent application previously assigned to FRD by the Medical University of South Carolina ("MUSC") and entitled "Opioid Agonists and Methods of Use Thereof." In exchange, FRD has granted Titan the option to acquire an exclusive worldwide, commercial license to the inventions related to MUSC's compounds.

We are collaborating with the Walter Reed Army Institute of Research, or WRAIR, and the Southwest Research Institute, or SwRI, in the early non-clinical evaluation of the ProNeura platform in malaria prophylaxis. The early data from this collaboration were encouraging and were presented by the WRAIR staff at several conferences, and the collaboration received additional funding from the Department of Defense, or DoD, to formulate implants containing both atovaquone and proguanil. We are also collaborating with WRAIR, SwRI and Oregon Health Science University, or OHSU, in the early non-clinical development of ProNeura implants containing endochin-like quinoline (ELQ) class antimalarial compounds supported by funding from the DoD.

Further research and development efforts on a product pipeline based on our ProNeura platform technology will depend on the availability of funding, either through corporate collaborations, grants or other sources.

# **Corporate Information**

We were incorporated under the laws of the State of Delaware in February 1992. Our principal executive offices are located at 400 Oyster Point Blvd., Suite 505, South San Francisco, CA 94080. Our telephone number is (650) 244-4990. We make our SEC filings available on the Investor Relations page of our website, http://titanpharm.com/. Information contained on our website is not part of this prospectus.

# THE OFFERING

# 1,100,000 shares

a discussion on the terms of the pre-funded warrants.
1.179 per pre-funded warrant
common stock involves substantial risks. You should read carefully the ed and incorporated by reference in this prospectus, including the risk y reference from our filings with the SEC.
e placement, we are selling to the purchaser of securities in this offering ed warrants, at the same purchase price as the pre-funded warrants in varrants to purchase up to 4,664,038 shares of our common stock at an 4 per share. We will receive net proceeds before expenses of ,222 from the sale of the pre-funded warrants in the concurrent private . We will receive proceeds from the other warrants solely to the extent cash. The warrants and the shares of our common stock issuable upon rrants are not being offered pursuant to this prospectus supplement and spectus. See "Private Placement Transaction."

(1) There will be 14,578,196 shares outstanding including the shares underlying the pre-funded warrants being issued in the concurrent private placement.

The number of shares of our common stock that will be outstanding immediately after this offering as shown above is based on 9,914,158 shares outstanding as of February 1, 2022 and excludes:

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- 990,336 shares of our common stock issuable upon the exercise of outstanding options with a weighted average exercise price of \$8.28 per share;
- 5,162,832 shares of our common stock issuable upon the exercise of outstanding warrants with a weighted average exercise price of \$4.75 per share (giving effect to an adjustment to certain of such warrants as a result of this offering);
- · 51,021 shares of common stock issuable to JT Pharma pursuant to terms of the TP-2021 asset purchase agreement; and
- 5,953,834 shares of common stock issuable upon exercise of the private placement pre-funded warrants and private placement warrants being issued in the concurrent private placement;

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# RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described below and all of the information contained or incorporated by reference in this prospectus, including the risks described in our <u>Annual Report on Form 10-K for the year ended December 31, 2020</u> our subsequent Quarterly Reports on Form 10-Q, and all other information contained or incorporated by reference into this prospectus before deciding whether to purchase the securities offered hereby. Our business, financial condition, results of operations and prospects could be materially and adversely affected by these risks.

# **Risks Related to This Offering and Our Common Stock**

# We have broad discretion in the use of the net proceeds we receive from this offering and may not use them effectively.

Our management will have significant discretion and flexibility in applying the net proceeds of this offering that are not allocated to payment of outstanding debt and other financial obligations. You will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the net proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flow.

# There is no public market for the warrants to purchase shares of our common stock being offered in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants on any national securities exchange or other nationally recognized trading system, including The Nasdaq Capital Market. Without an active trading market, the liquidity of the warrants will be limited.

# The warrants purchased in this offering do not entitle the holder to any rights as common stockholders until the holder exercises the warrant for shares of our common stock.

Until you acquire shares of our common stock upon exercise of your warrants purchased in this offering, such warrants will not provide you any rights as a common stockholder, except as set forth therein. Upon exercise of your warrants purchased in this offering, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs on or after the exercise date.

# You may experience future dilution as a result of future equity offerings and other issuances of our common stock or other securities. In addition, this offering and future equity offerings and other issuances of our common stock or other securities may adversely affect our common stock price.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may not be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by the investor in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions may be higher or lower than the price per share in this offering. You will incur dilution upon exercise of any outstanding stock options, warrants or upon the issuance of shares of common stock under our stock incentive programs. In addition, the sale of shares in this offering and any future sales of a substantial number of shares of our common stock in the price per shares of our common stock in the price of our common stock or the availability of those shares for sale will have on the market price of our common stock.

# Our share price may be volatile, which could prevent you from being able to sell your shares at or above your purchase price.

The market price of shares of our common stock has been and may continue to be subject to wide fluctuations in response to many risk factors listed in this section, and others beyond our control, including:

- · results of our product development efforts;
- · regulatory actions with respect to our products under development or our competitors' products;
- · actual or anticipated fluctuations in our financial condition and operating results;
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- · actual or anticipated fluctuations in our competitors' operating results or growth rate;
- announcements by us, our potential future collaborators or our competitors of significant acquisitions, strategic collaborations, joint ventures, or capital commitments;
- · issuance of new or updated research or reports by securities analysts;
- · fluctuations in the valuation of companies perceived by investors to be comparable to us;
- · inconsistent trading volume levels of our shares;
- · additions or departures of key personnel;
- · disputes or other developments related to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- · announcement or expectation of additional financing efforts;
- · sales of our common stock by us, our insiders or our other stockholders;
- · market conditions for biopharmaceutical stocks in general; and
- · general economic and market conditions.

The stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of shares of our common stock and could subject us to securities class action litigation.

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

The trading market for our common stock will depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. There can be no assurance that analysts will cover us or provide favorable coverage. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

# Provisions in our corporate charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our certificate of incorporation and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions provide that:

- the authorized number of directors can be changed only by resolution of our board of directors;
- · our bylaws may be amended or repealed by our board of directors or our stockholders;
- · stockholders may not call special meetings of the stockholders or fill vacancies on the board of directors;

- our board of directors is authorized to issue, without stockholder approval, preferred stock, the rights of which will be determined at the discretion of the board of
  directors and that, if issued, could operate as a "poison pill" to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that our board of
  directors does not approve;
- our stockholders do not have cumulative voting rights, and therefore our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors; and
- · our stockholders must comply with advance notice provisions to bring business before or nominate directors for election at a stockholder meeting.

# Our failure to meet the continued listing requirements of Nasdaq could result in a de-listing of our common stock.

During 2020, we received several notices from the Listing Qualifications Department the Nasdaq Stock Market, or Nasdaq, regarding the fact that the market price of our common stock was below the \$1.00 minimum bid price requirement for continued listing. As a result of the reverse stock split we effected on November 30, 2020, we were able to regain compliance with the minimum bid requirement and remain listed on Nasdaq. We have also previously received notices of noncompliance due to our failure to maintain the \$2,500,000 minimum stockholders' equity requirement for continued listing. We were able to regain compliance with that requirement through capital raises and our discontinuation of the expenses associated with Probuphine commercial operations. There can be no assurance that we will continue to meet all of the criteria necessary for Nasdaq to allow us to remain listed. For example, our share price has recently fallen below the \$1.00 minimum bid price requirement for continued listing.

If our common stock is delisted from Nasdaq, our common stock would likely then trade only in the over-the- counter market. If our common stock were to trade on the overthe-counter market, selling our common stock could be more difficult because smaller quantities of shares would likely be bought and sold, transactions could be delayed, and we could face significant material adverse consequences, including: a limited availability of market quotations for our securities; reduced liquidity with respect to our securities; a determination that our shares are a "penny stock," which will require brokers trading in our securities to adhere to more stringent rules, possibly resulting in a reduced level of trading activity in the secondary trading market for our securities; a reduced amount of news and analyst coverage for our Company; and a decreased ability to issue additional securities or obtain additional financing in the future. These factors could result in lower prices and larger spreads in the bid and ask prices for our common stock and would substantially impair our ability to raise additional funds and could result in a loss of institutional investor interest and fewer development opportunities for us.

In addition to the foregoing, if our common stock is delisted from Nasdaq and it trades on the over-the- counter market, the application of the "penny stock" rules could adversely affect the market price of our common stock and increase the transaction costs to sell those shares. The Securities and Exchange Commission, or SEC, has adopted regulations which generally define a "penny stock" as an equity security that has a market price of less than \$5.00 per share, subject to specific exemptions. If our common stock is delisted from Nasdaq and it trades on the over-the- counter market at a price of less than \$5.00 per share, our common stock would be considered a penny stock. The SEC's penny stock rules require a broker-dealer, before a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document that provides information about penny stocks and the risks in the penny stock market. The broker-dealer must also provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and the salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer's account. In addition, the penny stock rules generally require that before a transaction in a penny stock occurs, the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's agreement to the transaction. If applicable in the future, these rules may restrict the ability of brokers-dealers to sell our common stock and may affect the ability of investors to sell their shares, until our common stock no longer is considered a penny stock.

# **Risks Related to Our Business and Industry**

# Our ProNeura development programs are at very early stages and will require substantial additional resources that may not be available to us.

To date, other than our work on Probuphine in OUD, and our work on nalmefene, we have conducted only limited research and development activities assessing our ProNeura delivery system's applicability in other potential indications. While the nalmefene program is being funded in large part by NIDA, there is no assurance that NIDA will continue to provide the necessary funding to complete the regulatory approval process for this product candidate. We will also require substantial additional funds to advance our kappa opioid agonist program beyond the proof-of-concept stage and to support further research and development activities, including the anticipated costs of nonclinical studies and clinical trials, regulatory approvals, and eventual commercialization of any therapeutic based on our ProNeura platform technology. If we are unable to obtain substantial government grants or enter into third party collaborations to fund our ProNeura programs, we will need to seek additional sources of financing, which may not be available on favorable terms, if at all. If we are unsuccessful in obtaining the requisite funding for our ProNeura programs, we could be forced to discontinue product development. Furthermore, funding arrangements with collaborative partners or others may require us to relinquish rights to technologies, product candidates or products on terms that are less favorable to us than might otherwise be available.

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Our ability to successfully develop any future product candidates based on our ProNeura drug delivery technology is subject to the risks of failure and delay inherent in the development of new pharmaceutical products, including: delays in product development, clinical testing, or manufacturing; unplanned expenditures in product development, clinical testing, or manufacturing; failure to receive regulatory approvals; emergence of superior or equivalent products; inability to manufacture on our own, or through any others, product candidates on a commercial scale; and failure to achieve market acceptance. Because of these risks, our research and development efforts may not result in any commercially viable products and our business, financial condition, and results of operations could be materially harmed.

# Clinical trials required for new product candidates are expensive and time-consuming, and their outcome is uncertain

Conducting clinical trials is a lengthy, time-consuming, and expensive process. The length of time may vary substantially according to the type, complexity, novelty, and intended use of the product candidate, and often can be several years or more per trial. Delays associated with products for which we are directly conducting clinical trials may cause us to incur additional operating expenses. The commencement and rate of completion of clinical trials may be delayed by many factors, including, for example:

- inability to manufacture sufficient quantities of qualified materials under cGMP for use in clinical trials;
- slower than expected rates of patient recruitment;
- failure to recruit a sufficient number of patients; modification of clinical trial protocols;
- · changes in regulatory requirements for clinical trials;
- the lack of effectiveness during clinical trials;
- the emergence of unforeseen safety issues;
- · delays, suspension, or termination of the clinical trials due to the institutional review board responsible for overseeing the study at a particular study site; and

• government or regulatory delays or "clinical holds" requiring suspension or termination of the trials.

The results from early clinical trials are not necessarily predictive of results obtained in later clinical trials. Accordingly, even if we obtain positive results from early clinical trials, we may not achieve the same success in future clinical trials. Clinical trials may not demonstrate statistically significant safety and effectiveness to obtain the requisite regulatory approvals for product candidates. The failure of clinical trials to demonstrate safety and effectiveness for the desired indications could cause us to abandon a product candidate and could delay development of other product candidates. Any delay in, or termination of, our clinical trials could materially harm our business, financial condition, and results of operations.

### We face risks associated with third parties conducting preclinical studies and clinical trials of our products

We depend on third-party laboratories and medical institutions to conduct preclinical studies and clinical trials for our products and other third-party organizations to perform data collection and analysis, all of which must maintain both good laboratory and good clinical practices. We also depend upon third party manufacturers for the production of any products we may successfully develop to comply with cGMP of the FDA, which are similarly outside our direct control. If third party laboratories and medical institutions conducting studies of our products fail to maintain both good laboratory and clinical practices, the studies could be delayed or have to be repeated.

### We face risks associated with product liability lawsuits that could be brought against us

The testing, manufacturing, marketing and sale of human therapeutic products entail an inherent risk of product liability claims. We currently have a limited amount of product liability insurance, which may not be sufficient to cover claims that may be made against us in the event that the use or misuse of our product candidates causes, or merely appears to have caused, personal injury or death. In the event we are forced to expend significant funds on defending product liability actions, and in the event those funds come from operating capital, we will be required to reduce our business activities, which could lead to significant losses. Adequate insurance coverage may not be available in the future on acceptable terms, if at all. If available, we may not be able to maintain any such insurance at sufficient levels of coverage and any such insurance may not provide adequate protection against potential liabilities. Whether or not a product liability insurance policy is obtained or maintained in the future, any claims against us, regardless of their merit, could severely harm our financial condition, strain our management and other resources or destroy the prospects for commercialization of the product which is the subject of any such claim.

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### We may be unable to protect our patents and proprietary rights

Our future success will depend to a significant extent on our ability to:

- · obtain and keep patent protection for our products, methods and technologies on a domestic and international basis;
- enforce our patents to prevent others from using our inventions;
- maintain and prevent others from using our trade secrets; and
- operate and commercialize products without infringing on the patents or proprietary rights of others.

We cannot assure you that our patent rights will afford any competitive advantages, and these rights may be challenged or circumvented by third parties. Further, patents may not be issued on any of our pending patent applications in the U.S. or abroad. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that before a potential product can be commercialized, any related patent may expire or remain in existence for only a short period following commercialization, reducing or eliminating any advantage of the patent. If we sue others for infringing our patents, a court may determine that such patents are invalid or unenforceable. Even if the validity of our patent rights is upheld by a court, a court may not prevent the alleged infringement of our patent rights on the grounds that such activity is not covered by our patent claims.

In addition, third parties may sue us for infringing their patents. In the event of a successful claim of infringement against us, we may be required to:

- pay substantial damages;
- stop using our technologies and methods;
- stop certain research and development efforts;
- develop non-infringing products or methods; and
- obtain one or more licenses from third parties.

If required, we cannot assure you that we will be able to obtain such licenses on acceptable terms, or at all. If we are sued for infringement, we could encounter substantial delays in development, manufacture and commercialization of our product candidates. Any litigation, whether to enforce our patent rights or to defend against allegations that we infringe third party rights, will be costly, time consuming, and may distract management from other important tasks.

We also rely in our business on trade secrets, know-how and other proprietary information. We seek to protect this information, in part, through the use of confidentiality agreements with employees, consultants, advisors and others. Nonetheless, we cannot assure you that those agreements will provide adequate protection for our trade secrets, know-how or other proprietary information and prevent their unauthorized use or disclosure. To the extent that consultants, key employees or other third parties apply technological information independently developed by them or by others to our proposed products, disputes may arise as to the proprietary rights to such information, which may not be resolved in our favor.

### We must comply with extensive government regulations.

The research, development, manufacture, labeling, storage, record-keeping, advertising, promotion, import, export, marketing and distribution of pharmaceutical products are subject to an extensive regulatory approval process by the FDA in the U.S. and comparable health authorities in foreign markets. The process of obtaining required regulatory approvals for drugs is lengthy, expensive and uncertain. Approval policies or regulations may change, and the FDA and foreign authorities have substantial discretion in the pharmaceutical approval process, including the ability to delay, limit or deny approval of a product candidate for many reasons. Despite the time and expense invested in clinical development of product candidates, regulatory approval is never guaranteed. Regulatory approval may entail limitations on the indicated usage of a drug, which may reduce the drug's market potential. Even if regulatory clearance is obtained, post-market evaluation of the products, if required, could result in restrictions on a product's marketing or withdrawal of the product from the market, as well as possible civil and criminal sanctions. Of the large number of drugs in development, only a small percentage successfully complete the regulatory approval process and are commercialized.

With respect to our product development programs, we face competition from numerous companies that currently market, or are developing, products for the treatment of the diseases and disorders we have targeted, many of which have significantly greater research and development capabilities, experience in obtaining regulatory approvals and manufacturing, marketing, financial and managerial resources than we have. We also compete with universities and other research institutions in the development of products, technologies and processes, as well as the recruitment of highly qualified personnel. Our competitors may succeed in developing technologies or products that are more effective than the ones we have under development or that render our proposed products or technologies noncompetitive or obsolete. In addition, our competitors may achieve product commercialization or patent protection earlier than we will.

#### We depend on a small number of employees and consultants

We are highly dependent on the services of a limited number of personnel and the loss of one or more of such individuals could substantially impair our ongoing commercialization efforts. We compete in our hiring efforts with other pharmaceutical and biotechnology companies and it may be difficult and could take an extended period of time because of the limited number of individuals in our industry with the range of skills and experience required and because of our limited resources.

In addition, we retain scientific and clinical advisors and consultants to assist us in all aspects of our business. Competition to hire and retain consultants from a limited pool is intense. Further, because these advisors are not our employees, they may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us, and typically they will not enter into non-compete agreements with us. If a conflict of interest arises between their work for us and their work for another entity, we may lose their services. In addition, our advisors may have arrangements with other companies to assist those companies in developing products or technologies that may compete with ours.

# We face potential liability related to the privacy of health information we obtain from clinical trials sponsored by us or our collaborators, from research institutions and our collaborators, and directly from individuals.

Numerous federal and state laws, including state security breach notification laws, state health information privacy laws, and federal and state consumer protection laws, govern the collection, use, and disclosure of personal information. In addition, most health care providers, including research institutions from which we or our collaborators obtain patient health information, are subject to privacy and security regulations promulgated under the Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act. Although we are not directly subject to HIPAA, we could potentially be subject to criminal penalties if we, our affiliates, or our agents knowingly obtain or disclose individually identifiable health information maintained by a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA.

# We face risks related to health epidemics, such as the current COVID-19 global pandemic, that could adversely affect our operations or financial results

The spread of COVID-19, the novel coronavirus, including restrictions on travel, "shelter in place" orders, and quarantine policies put into place by businesses and state and local governments to mitigate its transmission, may have a material adverse effect on our business. While the duration of the pandemic and its potential economic impact are difficult to predict, it already has caused significant disruption in the healthcare industry and is likely to have continuing impacts as it continues. The travel restrictions, "shelter in place" orders, quarantine policies, and general concerns about the spread of COVID-19 was a significant factor in our decision to wind down our commercial operations because of the resulting disruptions in the delivery of healthcare to patients, our sales and marketing efforts and REMS training activities, as well as the operations of the various parts of our supply and distribution chain. The ultimate impact of the COVID-19 pandemic, or any other health epidemic, is highly uncertain and subject to change. We do not yet know the full extent of potential impacts on our business, healthcare systems or the global economy as a whole. As the pandemic continues, it may result in a sustained economic downturn that could affect our ability to access capital on reasonable terms, or at all.

# We are increasingly dependent on information technology systems, infrastructure and data. Cybersecurity breaches could expose us to liability, damage our reputation, compromise our confidential information or otherwise adversely affect our business.

We are increasingly dependent upon information technology systems, infrastructure and data. Our computer systems may be vulnerable to service interruption or destruction, malicious intrusion and random attack. Security breaches pose a risk that sensitive data, including intellectual property, trade secrets or personal information may be exposed to unauthorized persons or to the public. Cyber-attacks are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. Cyber-attacks could include the deployment of harmful malware, denial-of service, social engineering and other means to affect service reliability and threaten data confidentiality, integrity and availability. Our key business partners face similar risks, and a security breach of their systems could adversely affect our security posture. While we continue that our efforts will prevent service interruptions, or identify breaches in our systems, that could adversely affect our business and operations and/or result in the loss of critical or sensitive information, which could result in financial, legal, business or reputational harm.

# Risks Related to Our Financial Condition and Need for Additional Capital

# We have incurred net losses in almost every year since our inception and we may never achieve profitability

We have incurred net losses in almost every year since our inception. Our financial statements have been prepared assuming that we will continue as a going concern. For the nine months ended September 30, 2021 and the years ended December 31, 2020 and 2019, we had net losses of approximately \$6.2 million, \$18.2 million and \$16.5 million, respectively, and had net cash used in operating activities of approximately \$6.8 million, \$17.2 million and \$15.4 million, respectively. These net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital. We expect to continue to incur net losses and negative operating cash flow for the foreseeable future as we focus on development of ProNeura based products. The amount of future net losses will depend, in part, on the rate of future growth of our expenses and our ability to obtain government or third-party funding for our development programs. We may never achieve profitability.

# We will require additional proceeds to fund our product development programs

We currently estimate that our available cash and cash equivalents, along with the proceeds from this offering, will be sufficient to fund our working capital needs and product development efforts to the end of the third quarter of 2022. We will require additional funds to advance our kappa opioid agonist program beyond the proof-of-concept stage, and to fund any of our ProNeura development programs into the clinic and to complete the regulatory approval process necessary to commercialize any products we might develop. While we are currently evaluating the alternatives available to us, including government grants and third-party collaborations for one or more of our ProNeura programs, our efforts to address our liquidity requirements may not be successful. There can be no assurance that any source of capital will be available to us on acceptable terms.

At December 31, 2020, we had federal net operating loss and tax credit carryforwards of approximately \$268.8 million and approximately \$8.0 million, respectively, and state net operating loss and tax credit carryforwards of approximately \$109.7 million and approximately \$9.2 million, respectively, available to offset future taxable income, if any. Current federal and state tax laws include substantial restrictions on the utilization of net operating loss and tax credits in the event of an ownership change and we cannot assure you that our net operating loss and tax carryforwards will continue to be available.

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# **USE OF PROCEEDS**

We estimate that the gross combined proceeds from this offering and the concurrent private placement will be approximately \$5.5 million, after deducting the placement agent fees and the estimated offering expenses payable by us.

We currently intend to use the net proceeds from this offering for product research and development and general working capital purposes. We believe that the net proceeds of this offering, together with cash on hand, will be sufficient to fund our operations, including our kappa opioid agonist peptide program, for six to eight months. The amounts and timing of expenditures for any particular program may vary significantly and will depend on numerous factors, regulatory requirements, cash used by our operations, the extent to which we receive project funding from government grants and other third-party collaborators and other business developments and opportunities that may arise. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes and may need to raise additional capital to fund our product development programs sooner than we anticipate. Additional capital may not be available on terms favorable to us, or at all. If we are unable to raise adequate funds, we may have to delay, reduce the scope of, or eliminate some or all of our development programs or liquidate some or all of our assets.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment grade, interest bearing instruments and U.S. government securities.

# DILUTION

Purchasers of shares of our common stock in this offering will experience an immediate dilution of the net tangible book value per share of our common stock. Our net tangible book value as of September 30, 2021 was approximately \$7.5 million, or \$0.76 per share of our common stock. Net tangible book value per share is equal to our total tangible assets less our total liabilities, divided by the number of shares of our outstanding common stock. Dilution per share of our common stock in this offering (ascribing no value to the warrants) and the net tangible book value per share of our common stock immediately after this offering.

Based on the sale by us in this offering of 1,100,000 shares of common stock at an offering price of \$1.18 per share and 2,274,242 pre-funded warrants at an offering price of \$1.179 per warrant, after deducting estimated offering expenses and placement agent fees and expenses payable by us, our pro forma net tangible book value as of September 30, 2021 would have been approximately \$11.1 million, or \$0.84 per share of our common stock. This represents an immediate increase in pro forma net tangible book value to existing stockholders of \$0.08 per share of our common stock and an immediate dilution to purchasers in this offering of \$0.34 per share of our common stock.

The following table illustrates this per-share of our common stock dilution

Offering price per share of common stock		\$ 1.18
Net tangible book value per share as of September 30, 2021	\$ 0.76	
Increase in net tangible book value per share attributable to this offering	\$ 0.08	
Pro forma net tangible book value per share as of September 30, 2021 after giving effect to this offering		\$ 0.84
Dilution per share to the new investor in this offering		\$ 0.34

The information above is as of September 30, 2021 and excludes, as of that date:

• 691,744 shares of our common stock issuable upon the exercise of outstanding options with a weighted average exercise price of \$12.46 per share;

- 5,162,832 shares of our common stock issuable upon the exercise of outstanding warrants with a weighted average exercise price of \$4.84 per share (without giving effect to any price adjustment resulting from this offering);
- 310,852 additional shares of our common stock reserved for future issuance under our 2015 equity incentive plan;
- 50,000 shares of common stock issued to an affiliate of the representative that vest over 12 months from the date of issuance;
- 51,021 shares of common stock issued to JT Pharma pursuant to terms of the TP-2021 asset purchase agreement; and
- 5,953,834 shares of common stock issuable upon exercise of the warrants (including the pre-funded warrants) being issued in the concurrent private placement.

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# DESCRIPTION OF PRE-FUNDED WARRANTS

The following summary of certain terms and provisions of the pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by the provisions of, the pre-funded warrant. You should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

The term "pre-funded" refers to the fact that the purchase price of our common stock in this offering includes almost the entire exercise price that will be paid under the prefunded warrants, except for a nominal remaining exercise price of \$0.001. The purpose of the pre-funded warrants is to enable the investors that may have restrictions on its ability to beneficially own more than 4.99% (or, upon election of the holder, 9.99%) of our outstanding common stock following the consummation of this offering the opportunity to invest capital into our company without triggering their ownership restrictions, by receiving pre-funded warrants in lieu of our common stock which would result in such ownership of more than 4.99% (or 9.99%), and receive the ability to exercise their option to purchase the shares underlying the pre-funded warrants at such nominal price at a later date.

*Duration and Exercise Price*. The pre-funded warrants offered hereby will entitle the holder thereof to purchase up to an aggregate of 2,274,242 shares of our common stock at a nominal exercise price of \$0.001 per share, commencing immediately on the date of issuance, expected to be February 4, 2022. The pre-funded warrants will be issued separately from the common stock, and may be transferred separately immediately thereafter.

*Exercise Limitation.* The holder will not have the right to exercise any portion of the pre-funded warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or, upon election of the holder, 9.99%) of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such

percentage ownership is determined in accordance with the terms of the pre-funded warrants. However, the holder may increase or decrease such percentage, provided that any increase will not be effective until the 61st day after such election.

*Exercise Price Adjustment.* The exercise price of the pre-funded warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.

Transferability. Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent.

Exchange Listing. There is no established trading market for the pre-funded warrants and we do not expect a market to develop. in addition, we do not intend to apply for the listing of the pre-funded warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the pre-funded warrants will be limited.

*Fundamental Transactions.* If a fundamental transaction occurs, then the successor entity will succeed to, and be substituted for us, and may exercise every right and power that we may exercise and will assume all of our obligations under the pre-funded warrants with the same effect as if such successor entity had been named in the pre-funded warrant itself. If holders of our common stock are given a choice as to the securities, cash or property to be received in a fundamental transaction, then the holder shall be given the same choice as to the consideration it receives upon any exercise of the pre-funded warrant following such fundamental transaction.

*Rights as a Stockholder*. Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our common stock, the holder of a pre-funded warrants does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the pre-funded warrant.

# PRIVATE PLACEMENT TRANSACTION

Concurrently with the sale of shares of common stock in this offering, we will issue and sell to the investor in this offering 1,289,796 pre-funded warrants, or Private Pre-Funded Warrants, subject to a beneficial ownership blocker, and warrants, or Placement Warrants, to purchase up to an aggregate of 4,664,038 shares of common stock at an exercise price equal to \$1.14 per share.

The Private Pre-Funded Warrants, the Private Warrants and the shares of common stock issuable upon the exercise of such warrants are not being registered under the Securities Act, are not being offered pursuant to this prospectus supplement and the accompanying prospectus and are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder. Accordingly, purchasers may only sell shares of common stock issued upon exercise of the Private Pre-Funded Warrants or the Private Warrants pursuant to an effective registration statement under the Securities Act covering the resale of those shares, an exemption under Rule 144 under the Securities Act or another applicable exemption under the Securities Act.

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The following sets forth the material terms of the Private Warrants. Other than the resale registration rights set forth below, the Private Pre-Funded Warrants have the same terms as the pre-funded warrants being sold pursuant to this offering. See "Description of Pre-Funded Warrants."

*Exercisability*. The Private Warrants are immediately exercisable and will expire on August 4, 2027. The Private Warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and, at any time a registration statement registering the issuance of the shares of common stock underlying the Private Warrants under the Securities Act is effective and available for the issuance of such shares, or an exemption from registration under the Securities Act is available for the issuance of such shares, by payment in full in immediately available for the number of shares of common stock purchased upon such exercise. If a registration statement registering the issuance of the shares of the shares of common stock underlying the Private Warrants under the Securities Act is available, the holder may, in its sole discretion, elect to exercise the Private Warrants through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the warrant.

*Exercise Limitation*. A holder will not have the right to exercise any portion of the Private Warrants if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or, upon election of the holder, 9.99%) of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Private Warrants. However, any holder may increase or decrease such percentage, provided that any increase will not be effective until the 61st day after such election.

*Exercise Price Adjustment.* The exercise price of the Private Warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.

*Exchange Listing*. There is no established trading market for the Private Warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the Private Warrants on any national securities exchange or other trading market.

*Fundamental Transactions*. If a fundamental transaction occurs, then the successor entity will succeed to, and be substituted for us, and may exercise every right and power that we may exercise and will assume all of our obligations under the Private Warrants with the same effect as if such successor entity had been named in the warrant itself. If holders of our common stock are given a choice as to the securities, cash or property to be received in a fundamental transaction, then the holder shall be given the same choice as to the consideration it receives upon any exercise of the Private Warrants following such fundamental transaction. Additionally, as more fully described in the Private Warrant, in the event of certain fundamental transactions, the holders of those warrants will be entitled to receive consideration in an amount equal to the Black Scholes value of the warrants on the date of consummation of such transaction.

*Rights as a Stockholder*. Except as otherwise provided in the Private Warrants or by virtue of such holder's ownership of shares of our common stock, the holder of Private Warrants will not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the warrant.

*Resale/Registration Rights.* We are required within 30 days of the offering to file a registration statement on Form S-1 providing for the resale of the shares of common stock issued and issuable upon the exercise of the Private Warrants and the Private Pre-Funded Warrants. Failure to file the resale registration statement by such date will subject us to liquidated damages. We are required to use commercially reasonable efforts to cause such registration to become effective within 75 days of the date of issuance (or 120 days in the event of a full review by the SEC), and to keep such registration statement effective at all times until no investor owns any warrants or shares issuable upon exercise thereof. Failure to have the resale registration statement declared effective by the applicable date will subject us to liquidated damages.

Maxim Group LLC has agreed to act as the exclusive lead placement agent in connection with this offering subject to the terms and conditions of the placement agency agreement dated February 2, 2022. We refer to Maxim Group LLC as the placement agent. The placement agent is not purchasing or selling any of the shares of our common stock or pre-funded warrants offered by this prospectus supplement, nor is it required to arrange the purchase or sale of any specific number or dollar amount of shares of our common stock or pre-funded warrants, but have agreed to use its reasonable best efforts to arrange for the sale of all of the shares of our common stock and pre-funded warrants offered hereby. Therefore, we will enter into a securities purchase agreement directly with the investor in connection with this offering and we may not sell the entire amount of shares securities offered pursuant to this prospectus supplement. We will make offers only to a limited number institutional accredited investors. Maxim Group LLC is also acting as the placement agent for the private placement transaction and is being paid a fee related to the placement of the private placement warrants.

We have agreed to indemnify Maxim Group LLC against specified liabilities, including liabilities under the Securities Act, and to contribute to payments Maxim Group LLC may be required to make in respect thereof.

Pursuant to the terms of the securities purchase agreement, from the date hereof until 30 days after the effective date of the registration statement covering the resale of the shares of common stock underlying the Private Pre-Funded Warrants and the Private Warrants we may not issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of common stock or common stock equivalents, subject to certain exceptions set forth in the securities purchase agreement.

# Fees and Expenses

We have agreed to pay the placement agent a placement agent fee equal to 7.0% of the aggregate purchase price of the shares of our common stock and pre-funded warrants sold in this offering. The following table shows the per share and total cash placement agent's fees we will pay to the placement agent in connection with the sale of the shares of our common stock and pre-funded warrants offered pursuant to this prospectus supplement and the accompanying prospectus, assuming the purchase of all of the shares (or pre-funded warrants in lieu thereof) offered hereby.

	Per Share or Pre-	
	Funded Warrant	Total
Offering price (1)	\$ 1.18	\$ 3,979,331.32
Placement agent's fees	\$ 0.083	\$ 278,553.19
Proceeds, before expenses, to us	\$ 1.097	\$ 3,700,778.13

(1) The purchase price of the pre-funded warrants is \$.001 less than the per share purchase price.

In addition, we have agreed to reimburse Maxim Group LLC's actual out-of-pocket expenses up to \$40,000.

We estimate that the total expenses of the offering payable by us, excluding the placement agent's fees, will be approximately \$140,000.

The placement agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As underwriter, the placement agent would be required to comply with the requirements of the Securities Act and the Securities Exchange Act of 1934, as amended, or the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares by the placement agent acting as principal. Under these rules and regulations, the placement agent:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

This prospectus supplement and the accompanying prospectus may be made available in electronic format on websites or through other online services maintained by the placement agent or by an affiliate. Other than this prospectus supplement and the accompanying prospectus, the information on the placement agent's website and any information contained in any other website maintained by the placement agent is not part of this prospectus supplement and the accompanying prospectus form a part, has not been approved and/or endorsed by us or the placement agent, and should not be relied upon by investors.

The foregoing does not purport to be a complete statement of the terms and conditions of the placement agency agreement and the securities purchase agreement. A copy of the securities purchase agreement with the purchasers will be included as an exhibit to our Current Report on Form 8-K to be filed with the SEC and incorporated by reference into the registration statement of which this prospectus supplement and the accompanying prospectus form a part. See "Information Incorporated by Reference" and "Where You Can Find More Information."

No action has been or will be taken in any jurisdiction (except in the United States) that would permit a public offering of the securities offered by this prospectus supplement and accompanying prospectus, or the possession, circulation or distribution of this prospectus supplement and accompanying prospectus or any other material relating to us or the securities offered hereby in any jurisdiction where action for that purpose is required. Accordingly, the securities offered hereby may not be offered or sold, directly or indirectly, and neither of this prospectus supplement and accompanying prospectus nor any other offering material or advertisements in connection with the securities offered hereby may be distributed or published, in or from any country or jurisdiction except in compliance with any applicable rules and regulations of any such country or jurisdiction. The placement agent may arrange to sell securities offered by this prospectus supplement and accompanying prospectus supplement and accompanying prospectus in certain jurisdictions outside the United States, either directly or through affiliates, where they are permitted to do so.

# Relationships

The placement agent and its affiliates may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us in the ordinary course of their business, for which they may receive customary fees and commissions. In addition, from time to time, the placement agent and its affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future. However, except as disclosed in this prospectus supplement, we have no present arrangements with the placement agent for any further services.

# Transfer Agent and Registrar

The transfer agent and registrar for our Common Stock is Continental Stock Transfer & Trust Company. Its address is 17 Battery Place, 8th Floor, New York, New York 10004 and its telephone number is (212) 509-4000.

# Listing

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Our common stock is traded on The Nasdaq Capital Market under the symbol "TTNP."

# LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus supplement will be passed upon for us by Loeb & Loeb LLP, New York, New York. Ellenoff Grossman & Schole LLP, New York, New York, is acting as counsel for the placement agent in connection with the securities offered hereby.

# EXPERTS

The financial statements as of and for the years ended December 31, 2020 and 2019 incorporated by reference in this prospectus supplement constituting a part of the registration statement on Form S-3 have been so incorporated in reliance on the report of Oum & Co, LLP an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

# WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities offered by this prospectus supplement. This prospectus supplement and the accompanying prospectus, which are part of the registration statement, omits certain information, exhibits, schedules and undertakings set forth in the registration statement, as permitted by the SEC. For further information pertaining to us and the securities offered in this prospectus supplement, reference is made to that registration statement and the exhibits and schedules to the registration statement. Statements contained in this prospectus supplement and the accompanying prospectus as to the contents or provisions of any documents referred to in this prospectus are not necessarily complete, and in each instance where a copy of the document has been filed as an exhibit to the registration statement, reference is made to the exhibit for a more complete description of the matters involved.

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We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings can be read and copied at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. The public may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. Also, the SEC maintains a website at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC, including us.

General information about our company, including our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments and exhibits to those reports, are available free of charge through our website at www.titanpharm.com as soon as reasonably practicable after we file them with, or furnish them to, the SEC. Information on, or than can be accessed through, our website is not incorporated into this prospectus supplement or other securities filings and is not a part of these filings.

# INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus supplement the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this prospectus supplement, and later information that we file with the SEC will automatically update and supersede some of this information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, including filings made after the date of the initial registration statement, until we sell all of the shares covered by this prospectus supplement or the sale of shares by us pursuant to this prospectus supplement is terminated. In no event, however, will any of the information that we furnish to, pursuant to Item 2.02 or Item 7.01 of any Current Report on Form 8-K (including exhibits related thereto) or other applicable SEC rules, rather than file with, the SEC be incorporated by reference or otherwise be included herein, unless such information is expressly incorporated herein by a reference in such furnished Current Report on Form 8-K (or other furnished document. The documents we incorporate by reference are:

- our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 31, 2021;
- our Ouarterly Report on Form 10-Q for the period ended March 31, 2021, filed with the SEC on May 17, 2021;
- our Quarterly Report on Form 10-Q for the period ended June 30, 2021, filed with the SEC on August 16, 2021;
- our Quarterly Report on Form 10-Q for the period ended September 30, 2021, filed with the SEC on November 15, 2021;
- our Current Reports on Form 8-K filed with the SEC onJanuary 8, 2021, January 19, 2021, February 4, 2021, July 26, 2021; October 26, 2021, October 28, 2021, November 9, 2021 December 14, 2021, December 22, 2021, December 29, 2021 and January 3, 2022;
- our Definitive Proxy Statement filed with the SEC on November 5, 2021;
- our Additional Definitive Proxy Materials filed with the SEC on November 22, 2021, December 14, 2021, December 22, 2021 and December 29, 2021; and
- the description of our common stock contained in our registration statement on Form 8-A (File No. 001-13341) filed under the Exchange Act on October 8, 2015, including any amendment or reports filed for the purpose of updating such descriptions.

Any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus supplement will be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus supplement modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement.

We will provide each person to whom a prospectus supplement is delivered a copy of all of the information that has been incorporated by reference in this prospectus supplement but not delivered with the prospectus supplement. You may obtain copies of these filings, at no cost, through the "Investor Relations" section of our website (www.titanpharm.com) and you may request a copy of these filings (other than an exhibit to any filing unless we have specifically incorporated that exhibit by reference into the filing), at no cost, by writing or telephoning us at the following address:

400 Oyster Point Boulevard, Suite 505 South San Francisco, CA 94080 (650) 244-4990

Information on, or that can be accessed through, our website is not incorporated into this prospectus supplement or other securities filings and is not a part of these filings.

# PROSPECTUS



\$50,000,000 Common Stock Preferred Stock Debt Securities Warrants

We may offer and sell, from time to time in one or more offerings, any combination of common stock, preferred stock, debt securities or warrants having a maximum aggregate offering price of \$50,000,000. When we decide to sell a particular class or series of securities, we will provide specific terms of the offered securities in a prospectus supplement. The prospectus supplement may also add, update or change information contained in or incorporated by reference into this prospectus. However, no prospectus supplement shall offer a security that is not registered and described in this prospectus at the time of its effectiveness. You should read this prospectus and any prospectus supplement, as well as the documents incorporated by reference or deemed to be incorporated by reference into this prospectus, carefully before you invest. This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement relating to the offered securities.

Our common stock is listed on the NASDAQ Capital Market under the symbol "TTNP." On April 3, 2019, the closing price of our common stock, as reported by the NASDAQ Capital Market, was \$1.65 per share and the aggregate market value of our outstanding common stock held by non-affiliates (our "public float") was approximately \$21.5 million. Pursuant to General Instruction I.B.6 of Form S-3, as long as the aggregate market value of our common stock held by non-affiliates remains below \$75.0 million, we will not, during any 12 calendar month period, sell securities registered on the registration statement of which this prospectus is a part in a public primary offering with a value exceeding more than one-third of our public float. As of the date hereof, we have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

These securities may be sold directly by us, through dealers or agents designated from time to time, to or through underwriters or through a combination of these methods. See "Plan of Distribution" in this prospectus. We may also describe the plan of distribution for any particular offering of our securities in a prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

An investment in our securities involves a high degree of risk. See the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K/A, as well as in any prospectus supplement related to these specific offerings.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 24, 2019

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# ABOUT THIS PROSPECTUS

This prospectus is part of a Registration Statement that we filed with the Securities and Exchange Commission ("SEC") using a "shelf" registration process. Under this shelf registration process, we may offer from time to time securities having a maximum aggregate offering price of \$50,000,000. Each time we offer securities, we will prepare and file with the SEC a prospectus supplement that describes the specific amounts, prices and terms of the securities we offer. The prospectus supplement also may add, update or change information contained in this prospectus or the documents incorporated herein by reference. You should read carefully both this prospectus and any prospectus supplement together with additional information described below under the caption "Where You Can Find More Information."

This prospectus does not contain all the information provided in the Registration Statement we filed with the SEC. For further information about us or our securities offered hereby, you should refer to that Registration Statement, which you can obtain from the SEC as described below under "Where You Can Find More Information."

You should rely only on the information contained or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus or any prospectus supplement, as well as information we have previously filed with the SEC and incorporated by reference, is accurate as of the date of those documents only. Our business, financial condition, results of operations and prospects may have changed since those dates.

We may sell securities through underwriters or dealers, through agents, directly to purchasers or through any combination of these methods. We and our agents reserve the sole right to accept or reject in whole or in part any proposed purchase of securities. The prospectus supplement, which we will prepare and file with the SEC each time we offer securities, will set forth the names of any underwriters, agents or others involved in the sale of securities, and any applicable fee, commission or discount arrangements with them. See "Plan of Distribution."

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In this prospectus, unless otherwise indicated, "our company," "Titan," "we," "us" or "our" refer to Titan Pharmaceuticals, Inc., a Delaware corporation.

### PROSPECTUS SUMMARY

This prospectus summary highlights certain information about our company and other information contained elsewhere in this prospectus or in documents incorporated by reference. This summary does not contain all of the information that you should consider before making an investment decision. You should carefully read the entire prospectus, any prospectus supplement, including the section entitled "Risk Factors" and the documents incorporated by reference into this prospectus, before making an investment decision.

Probuphine<sup>®</sup> and ProNeura<sup>TM</sup> are trademarks of our company. This Annual Report on Form 10-K/A also includes trade names and trademarks of companies other than Titan.

#### The Offering

This prospectus is part of a Registration Statement that we filed with the SEC utilizing a shelf registration process. Under this shelf registration process, we may sell any combination of:

- common stock;
- preferred stock;
- · debt securities; and/or
- warrants to purchase any of the securities listed above.

in one or more offerings up to a total dollar amount of \$50,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that specific offering and include a discussion of any risk factors or other special considerations that apply to those securities. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading "Where You Can Find More Information."

# **Our Company**

We are a pharmaceutical company developing therapeutics utilizing our proprietary long-term drug delivery platform, ProNeura, for the treatment of select chronic diseases for which steady state delivery of a drug provides an efficacy and/or safety benefit. We have been transitioning to a commercial stage enterprise since May 25, 2018 when we reacquired Probuphine<sup>®</sup> (buprenorphine) implant, or Probuphine, from our former licensee. Probuphine is the first product based on our ProNeura technology approved in the U.S. and Canada for the maintenance treatment of opioid use disorder, or OUD, in eligible patients. Since the reacquisition, we have been implementing a strategic plan aimed at building the foundation to support an effective U.S. product relaunch targeted at select OUD market segments best suited for Probuphine, including the establishment of a small experienced commercial team and the engagement of new strategic partners in the product order and distribution process.

ProNeura consists of a small, solid rod made from a mixture of ethylene-vinyl acetate, or EVA, and a drug substance. The resulting product is a solid matrix that is placed subdermally, normally in the inside part of the upper arm in a short physician office based outpatient procedure, and is removed in a similar manner at the end of the treatment period. The drug substance is released continuously through the process of diffusion-controlled dissolution, resulting in a steady rate of release generally similar to intravenous administration thereby avoiding the fluctuating peak and trough levels of oral dosing that often pose problems in many disease settings. We believe that our ProNeura long term drug delivery platform has the potential to be used in the treatment of other chronic conditions where maintaining stable, around the clock blood levels of a medication may benefit the patient and improve medical outcomes. While our primary focus is on the commercialization of Probuphine, we are also engaged in research and development efforts on a product pipeline based on this platform technology.

Our principal executive offices are located at 400 Oyster Point Boulevard, South San Francisco, CA 94080. Our website is located at www.titanpharm.com, and our telephone number is (650) 244-4990. Information found on, or accessible through, our website is not a part of, and is not incorporated into, this prospectus, and you should not consider it part of this prospectus or part of any prospectus supplement. Our website address is included in this document as an inactive textual reference only.

# **RISK FACTORS**

Investing in our securities involves risk. The prospectus supplement applicable to a particular offering of securities will contain a discussion of the risks applicable to an investment in Titan and to the particular types of securities that we are offering under that prospectus supplement. Before making an investment decision, you should carefully consider the risks described under "Risk Factors" in the applicable prospectus supplement and the risks described in our most recent <u>Annual Report on Form 10-K/A for the year ended December 31, 2018</u> as amended from time to time, which is incorporated herein by reference, or any updates in our Quarterly Reports on Form 10-Q, together with all of the other information appearing in or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment.

#### SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, or Exchange Act. Forward-looking statements reflect the current view about future events. When used in this prospectus, the words "anticipate," "believe," "estimate," "expect," "future," "intend," "plan," or the negative of these terms and similar expressions, as they relate to us or our management, identify forward-looking statements. Such statements, include, but are not limited to, statements contained in this prospectus relating to our business strategy, our future operating results and liquidity and capital resources outlook. Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forwardlooking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Our actual results may differ materially from those contemplated by the forward-looking statements. They are neither statements of historical fact nor guarantees of assurance of future performance. We caution you therefore against relying on any of these forward-looking statements. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, without limitation, uncertainties relating to the commercialization of Probuphine®, financing and strategic agreements and relationships; difficulties or delays in the regulatory approval process; uncertainties relating to manufacturing, sales, marketing and distribution of our drug candidates that may be successfully developed and approved for commercialization; adverse side effects or inadequate therapeutic efficacy of our drug candidates that could slow or prevent product development or commercialization; dependence on third party suppliers; the uncertainty of protection for our patents and other intellectual property or trade secrets; and competition (in addition to any other risks contained in the section entitled "Risk Factors" of the applicable prospectus supplement). Should one or more of these risks or uncertainties materialize, or should the underlying assumptions prove incorrect, actual results may differ significantly from those anticipated, believed, estimated, expected, intended or planned.

Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We cannot guarantee future results, levels of activity, performance or achievements. Except as required by applicable law, including the securities laws of the United States, we do not intend to update any of the forward-looking statements to conform these statements to actual results.

### **USE OF PROCEEDS**

Except as otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities covered by this prospectus for general corporate purposes, which may include, but is not limited to, working capital, capital expenditures, research and development expenditures and acquisitions of new technologies or businesses. The precise amount, use and timing of the application of such proceeds will depend upon our funding requirements and the availability and cost of other capital. Additional information on the use of net proceeds from an offering of securities covered by this prospectus may be set forth in the prospectus supplement relating to the specific offering.

# DIVIDEND POLICY

We have never declared or paid dividends on our common stock and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. Payment of cash dividends, if any, in the future will be at the discretion of our board of directors and will depend on applicable law and then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business.

### DESCRIPTIONS OF THE SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with any applicable prospectus supplement, summarize all the material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement relating to a particular offering the specific terms of the securities offered by that prospectus supplement. We will indicate in the applicable prospectus supplement if the terms of the securities differ from the terms we have summarized below. We will also include in the prospectus supplement information, where applicable, material United States federal income tax considerations relating to the securities.

We may sell from time to time, in one or more offerings:

- shares of our common stock;
- · shares of our preferred stock;
- debt securities in one or more series; and/or
- warrants to purchase any of the securities listed above.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

# **Capital Stock**

#### General

The following description of common stock and preferred stock, together with the additional information we include in any applicable prospectus supplement, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus but is not complete. For the complete terms of our common stock and preferred stock, please refer to our amended and restated certificate of incorporation, as may be amended from time to time, any certificates of designation for our preferred stock, that may be authorized from time to time, and our bylaws, as amended from time to time. The Delaware General Corporation Law may also affect the terms of these securities. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the specific terms of any series of these securities in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement may differ from the terms we describe below.

As of April 3, 2019, our authorized capital stock consists of 125,000,000 shares of common stock, par value \$0.001 per share, of which 13,413,628 shares were issued and outstanding, and 5,000,000 shares of preferred stock, par value \$0.001 per share, none of which were issued and outstanding. The authorized and unissued shares of common stock and preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. Unless approval of our stockholders is so required, our board of directors will not seek stockholder approval for the issuance and sale of our common stock.

#### **Common Stock**

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of the stockholders, including the election of directors. Our amended and restated certificate of incorporation and amended and restated bylaws do not provide for cumulative voting rights. Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of our outstanding shares of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock. Holders of our common stock have no preemptive, conversion or subscription rights, and



there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that are outstanding or that we may designate and issue in the future. All of our outstanding shares of common stock are fully paid and nonassessable.

Our common stock is listed on the NASDAQ Capital Market under the symbol "TTNP." The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company, New York, New York.

#### Options

As of as of April 3, 2019 we had outstanding options to purchase 1,061,644 shares of our common stock at a weighted average exercise price of \$8.09.

#### **Preferred Stock**

Our amended and restated certificate of incorporation, as amended, provides that our board of directors may, by resolution, designate classes of preferred stock in the future. The designated series of preferred stock shall have such powers, designations, preferences and relative, participation or optional or other special rights and qualifications, limitations or restrictions as shall be expressed in the resolution adopted by the board of directors. Once designated by our board of directors, each series of preferred stock will have specific financial and other terms that will be described in a prospectus supplement. The description of the preferred stock that is set forth in any prospectus supplement is not complete without reference to the documents that govern the preferred stock. These include our amended and restated certificate of incorporation, as amended, and any certificates of designation that our board of directors may adopt. The certificate of designations, fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including, but not limited to, some or all of the following:

- the number of shares constituting that series and the distinctive designation of that series, which number may be increased or decreased (but not below the number of shares then outstanding) from time to time by action of the board of directors;
- the dividend rate and the manner and frequency of payment of dividends on the shares of that series, whether dividends will be cumulative, and, if so, from which date;
- whether that series will have voting rights, in addition to any voting rights provided by law, and, if so, the terms of such voting rights;
- whether that series will have conversion privileges, and, if so, the terms and conditions of such conversion, including provision for adjustment of the conversion rate in such events as the board of directors may determine;
- whether or not the shares of that series will be redeemable, and, if so, the terms and conditions of such redemption;
- whether that series will have a sinking fund for the redemption or purchase of shares of that series, and, if so, the terms and amount of such sinking fund;
- whether or not the shares of the series will have priority over or be on a parity with or be junior to the shares of any other series or class in any respect;
- the rights of the shares of that series in the event of voluntary or involuntary liquidation, dissolution or winding up of the corporation, and the relative rights or priority, if any, of payment of shares of that series; and
- any other relative rights, preferences and limitations of that series.

All shares of preferred stock offered hereby will, when issued, be fully paid and non-assessable, including shares of preferred stock issued upon the exercise of preferred stock warrants or subscription rights, if any.

Although our board of directors has no intention at the present time of doing so, it could authorize the issuance of a series of preferred stock that could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt.

#### **Debt Securities**

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will generally apply to any future debt securities we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities we offer under a prospectus supplement may differ from the terms we describe below. As of the date of this prospectus, we have no outstanding registered debt securities.

We will issue senior notes under a senior indenture, which we will enter into with the trustee to be named in the senior indenture. We will issue subordinated notes under a subordinated indenture, which we will enter into with the trustee to be named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement of which this prospectus is a part. We use the term "indentures" to refer to both the senior indenture and the subordinated indenture.

The indentures will be qualified under the Trust Indenture Act of 1939. We use the term "debenture trustee" to refer to either the senior trustee or the subordinated trustee, as applicable.

The following summaries of material provisions of the senior notes, the subordinated notes and the indentures are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements related to the debt securities that we sell under this prospectus, as well as the complete indentures that contain the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior and the subordinated indentures are identical.

#### General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers' certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series, including any pricing supplement. The prospectus supplement will set forth:

- the title;
- the principal amount being offered, and, if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;
- whether or not we will issue the series of debt securities in global form and, if so, the terms and who the depositary will be;
- the maturity date;
- whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a U.S. person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate, the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- · the terms of the subordination of any series of subordinated debt;



- the place where payments will be payable;
- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, the conditions upon which, and the price at which we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions, and any other applicable terms of those redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- whether the indenture will restrict our ability and/or the ability of our subsidiaries to, among other things,:
- incur additional indebtedness;
- issue additional securities;
- create liens;
- pay dividends and make distributions in respect of our capital stock and the capital stock of our subsidiaries;
- redeem capital stock;
- · place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;
- make investments or other restricted payments;
- sell or otherwise dispose of assets;
- enter into sale-leaseback transactions;
- · engage in transactions with stockholders and affiliates;
- issue or sell stock of our subsidiaries; or
- effect a consolidation or merger;
- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;
- a discussion of any material or special U.S. federal income tax considerations applicable to the debt securities;
- information describing any book-entry features;
- provisions for a sinking fund purchase or other analogous fund, if any;
- whether the debt securities are to be offered at a price such that they will be deemed to be offered at an "original issue discount" as defined in paragraph (a) of Section 1273 of the Internal Revenue Code;
- the procedures for any auction and remarketing, if any;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- · if other than dollars, the currency in which the series of debt securities will be denominated; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any events of default that are in addition to those described in this prospectus or any



covenants provided with respect to the debt securities that are in addition to those described above, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

#### Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for common stock or other securities of ours or a third party, including the conversion or exchange rate, as applicable, or how it will be calculated, and the applicable conversion or exchange period. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of our securities or the securities of a third party that the holders of the series of debt securities receive upon conversion or exchange would, under the circumstances described in those provisions, be subject to adjustment, or pursuant to which those holders would, under those circumstances, receive other property upon conversion or exchange, for example in the event of our merger or consolidation with another entity.

### Consolidation, Merger or Sale

The indentures in the forms initially filed as exhibits to the registration statement of which this prospectus is a part do not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor of ours or the acquirer of such assets must assume all of our obligations under the indentures and the debt securities.

If the debt securities are convertible for our other securities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

# Events of Default Under the Indenture

The following are events of default under the indentures in the forms initially filed as exhibits to the registration statement with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, sinking fund payment or premium, if any, when due and payable and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the debenture trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- · if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the debenture trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the debenture trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the debenture trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.



Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act of 1939, the debenture trustee need not take any action
  that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the
  proceeding.

A holder of the debt securities of any series will only have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

- the holder has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity, to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the debenture trustee regarding our compliance with specified covenants in the indentures.

### Modification of Indenture; Waiver

We and the debenture trustee may change an indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the indenture;
- · to comply with the provisions described above under "- Consolidation, Merger or Sale";
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act of 1939;
- · to evidence and provide for the acceptance of appointment hereunder by a successor trustee;
- · to provide for uncertificated debt securities and to make all appropriate changes for such purpose;
- to add to, delete from, or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issuance, authorization and delivery of debt securities or any series, as set forth in the indenture;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under "— General" to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default, or to surrender any of our rights or powers under the indenture; or



to change anything that does not materially adversely affect the interests of any holder of debt securities
of any series.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, we and the debenture trustee may only make the following changes with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

#### Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except that the following obligations survive until the maturity date or the redemption date:

- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- maintain paying agencies;
- · hold monies for payment in trust; and
- appoint any successor trustee;

and the following obligations survive the maturity date or the redemption date:

- recover excess money held by the debenture trustee; and
- compensate and indemnify the debenture trustee.

In order to exercise our rights to be discharged, we must deposit with the debenture trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

# Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, known as DTC, or another depositary named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.



We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of any series being redeemed in part during a
  period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of
  any debt securities that may be selected for redemption and ending at the close of business on the day of
  the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

# Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the debenture trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

# Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that, unless we otherwise indicate in the applicable prospectus supplement, we may make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

#### Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act of 1939 is applicable.

#### Subordination of Subordinated Debt Securities

The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The indentures in the forms initially filed as exhibits to the registration statement of which this prospectus is a part do not limit the amount of indebtedness that we may incur, including senior indebtedness or subordinated indebtedness, and do not limit us from issuing any other debt, including secured debt or unsecured debt.

#### Warrants

As of as of April 3, 2019, we had outstanding:

- Investor warrants to purchase 4,842,729 shares of our common stock at a weighted average exercise price of \$2.03.
- Lender warrants to purchase 463,333 shares of our common stock at a weighted average exercise price of \$2.69.
- Underwriters' warrants to purchase 253,333 shares of our common stock at an exercise price of \$1.68.

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and any related warrant agreement and warrant certificate. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the specific terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the Registration Statement which includes this prospectus.

#### General

We may issue warrants for the purchase of common stock or preferred stock in one or more series. We may issue warrants independently or together with common stock or preferred stock, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we may issue under a separate agreement. We may enter into a warrant agreement with a warrant agent. Each warrant agent may be a bank that we select which has its principal office in the United States. We may also choose to act as our own warrant agent. We will indicate the name and address of any such warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock or preferred stock, the number or amount of shares of
  common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and
  the price at which and currency in which these shares may be purchased upon such exercise;
- the manner of exercise of the warrants, including any cashless exercise rights;
- the warrant agreement under which the warrants will be issued;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- anti-dilution provisions of the warrants, if any;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

- the dates on which the right to exercise the warrants will commence and expire or, if the warrants are not
  continuously exercisable during that period, the specific date or dates on which the warrants will be
  exercisable;
- the manner in which the warrant agreement and warrants may be modified;
- the identity of the warrant agent;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants;
- any securities exchange or quotation system on which the warrants or any securities deliverable upon exercise of the warrants may be listed or quoted; and
- · any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Prior to exercise of the warrants, holders of warrants will not be entitled, by virtue of being such holders, to vote, consent, receive dividends, receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter, or to exercise any rights whatsoever as our stockholders.

#### Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to 5:00 P.M. eastern time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required exercise price by the methods provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate, and in the applicable prospectus supplement, the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants.

The exercise price payable and the number of shares of common stock or preferred stock purchasable upon the exercise of each equity warrant will be subject to adjustment in certain events, including the issuance of a stock dividend to holders of common stock or preferred stock or a stock split, reverse stock split, combination, subdivision or reclassification of common stock or preferred stock. In lieu of adjusting the number of shares of common stock or preferred stock purchasable upon exercise of each equity warrant, we may elect to adjust the number of equity warrants. No adjustments in the number of shares purchasable upon exercise of the equity warrants will be required until cumulative adjustments require an adjustment of at least 1% thereof. We may, at our option, reduce the exercise price at any time. No fractional shares will be issued upon exercise of warrants, but we will pay the cash value of any fractional shares otherwise issuable. Notwithstanding the foregoing, in case of any consolidation, merger, or sale or conveyance of our property in its entirety or substantially in its entirety, the holder of each outstanding equity warrant shall have the right to the kind and amount of shares of stock and other securities and property, including cash, receivable by a holder of the number of shares of common stock or preferred stock into which the equity warrant was exercisable immediately prior to such transaction

# Enforceability of Rights by Holders of Warrants

Any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or



trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action the holder's right to exercise, and receive the securities purchasable upon exercise of, its warrants in accordance with their terms.

# Governing Law

Each warrant agreement and any warrants issued under the warrant agreements will be governed by New York law.

# Units

We may issue units comprised of one or more of the other securities described in this prospectus or in any prospectus supplement in any combination. Each unit will be issued so that the holder of the unit is also the holder, with the rights and obligations of a holder, of each security included in the unit.

#### PLAN OF DISTRIBUTION

We may sell the securities being offered pursuant to this prospectus to or through underwriters, through dealers, through agents, or directly to one or more purchasers or through a combination of these methods. The applicable prospectus supplement will describe the terms of the offering of the securities, including:

- the name or names of any underwriters, if, and if required, any dealers or agents;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any underwriting discounts and other items constituting underwriters' compensation;
- · any discounts or concessions allowed or re-allowed or paid to dealers; and
- any securities exchange or market on which the securities may be listed or traded.

We may distribute the securities from time to time in one or more transactions at:

- a fixed price or prices, which may be changed;
- market prices prevailing at the time of sale;
- · prices related to such prevailing market prices; or
- negotiated prices.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent, and the underwriters will be obligated to purchase all of the offered securities, if any are purchased.

We may grant to the underwriters options to purchase additional securities to cover over-allotments, if any, at the public offering price, with additional underwriting commissions or discounts, as may be set forth in a related prospectus supplement. The terms of any over-allotment option will be set forth in the prospectus supplement for those securities.

If we use a dealer in the sale of the securities being offered pursuant to this prospectus or any prospectus supplement, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement.

We may authorize agents or underwriters to solicit offers by institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.



In connection with the sale of the securities, underwriters, dealers or agents may receive compensation from us or from purchasers of the securities for whom they act as agents, in the form of discounts, concessions or commissions. Underwriters may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agents. Underwriters, dealers and agents that participate in the distribution of the securities, and any institutional investors or others that purchase securities directly for the purpose of resale or distribution, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the common stock by them may be deemed to be underwriting discounts and commissions under the Securities Act. No FINRA member firm may receive compensation in excess of that allowable under FINRA rules, including Rule 5110, in connection with the offering of the securities.

We may provide agents, underwriters and other purchasers with indemnification against particular civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents, underwriters or other purchasers may make with respect to such liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

To facilitate the public offering of a series of securities, persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the market price of the securities. This may include overallotments or short sales of the securities, which involves the sale by persons participating in the offering of more securities than have been sold to them by us. In exercising the over-allotment option granted to those persons. In addition, those persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to underwriters or dealers participating in any such offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time. We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above, if implemented, may have on the price of our securities.

Unless otherwise specified in the applicable prospectus supplement, any common stock sold pursuant to a prospectus supplement will be eligible for trading as quoted on the Nasdaq Capital Market. Any underwriters to whom securities are sold by us for public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

In order to comply with the securities laws of some states, if applicable, the securities offered pursuant to this prospectus will be sold in those states only through registered or licensed brokers or dealers. In addition, in some states securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

#### LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered hereby will be passed upon for us by Loeb & Loeb LLP, New York, New York. If the validity of the securities offered hereby in connection with offerings made pursuant to this prospectus are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

#### EXPERTS

The audited financial statements as of and for the years ended December 31, 2018 and December 31, 2017 have been incorporated by reference in this prospectus in reliance upon the report of OUM & Co. LLP, an independent registered public accounting firm and their authority as experts in accounting and auditing.

# LIMITATION ON LIABILITY AND DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Section 145 of the Delaware General Corporation Law provides that we may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal or investigative (other than an action by us or in our right) by reason of the fact that he is or was our director, officer, employee or agent, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. Section 145 further provides that we similarly may indemnify any such person serving in any such capacity who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by is or in our right to procure judgment in our favor, against expenses actually and reasonably incurred in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he reasonably believed to be in or not opposed to our best interests and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to us unless and only to the extent that the Delaware Court of Chancery or such other court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper. In the event that a claim for indemnification against such liabilities, other than the payment by us of expenses incurred or paid by such director, officer or controlling person in the successful defense of any action, lawsuit or proceeding, is asserted by such director, officer or controlling person in connection with the securities being registered, we will, unless in the opinion of 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.

Our certificate of incorporation, as amended, limits the liability of our directors to the fullest extent permitted by Delaware law. In addition, we have entered into indemnification agreements with certain of our directors and officers whereby we have agreed to indemnify those directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee or agent of the our company, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interests of our company.

We have director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us, including matters arising under the Securities Act. Our certificate of incorporation and bylaws also provide that we will indemnify our directors and officers who, by reason of the fact that he or she is one of our officers or directors of our company, is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative related to their board role with the company.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC 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, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

### WHERE YOU CAN FIND MORE INFORMATION

This prospectus and any subsequent prospectus supplements do not contain all of the information in the Registration Statement. We have omitted from this prospectus some parts of the Registration Statement as permitted by the rules and regulations of the SEC. Statements in this prospectus concerning any document we have filed as an exhibit to the Registration Statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified in their entirety by reference to these filings. In addition, we file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any documents that we have filed with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the operation of the Public Reference Room. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information that we file electronically with the SEC, including us. The SEC's Internet site can be found at http://www.sec.gov. In addition, we make available on or through our Internet site copies of these reports as soon as reasonably practicable after we electronically file or furnished them to the SEC. Our Internet site can be found at http://www.itanpharm.com. Our website is not a part of this prospectus.

### INFORMATION INCORPORATED BY REFERENCE

We have elected to incorporate certain information by reference into this prospectus. By incorporating by reference, we can disclose important information to you by referring you to other documents we have filed or will file with the SEC. The information incorporated by reference is deemed to be part of this prospectus, except for information incorporated by reference that is superseded by information contained in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any statements in the prospectus or any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents set forth below that we have previously filed with the SEC:

- Our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2018, filed on April 2, 2019;
- Our Current Report on Form 8-K filed on April 3, 2019; and
- The description of the our common stock set forth in the Registration Statement on Form 8-A12B filed on October 8, 2015

All documents subsequently filed by the Registrant with the SEC pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than documents or portions of documents deemed to be furnished pursuant to the Exchange Act), prior to the filing of a post-effective amendment which indicates that all securities offered have been sold, or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein, or in any other subsequently filed document which also is incorporated or deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.