

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON D.C. 20549

FORM S-1

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

**TONIX PHARMACEUTICALS HOLDING CORP.**

(Name of registrant in its charter)

**Nevada**  
(State or other Jurisdiction  
of Incorporation or Organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**26-1434750**  
(I.R.S. Employer  
Identification No.)

**509 Madison Avenue, Suite 1608  
New York, New York 10022  
(212) 980-9155**  
(Address and telephone number of principal executive offices and principal place of business)

**Seth Lederman  
Chief Executive Officer  
Tonix Pharmaceuticals Holding Corp.  
509 Madison Avenue, Suite 1608  
New York, New York 10022  
(212) 980-9155**  
(Name, address and telephone number of agent for service)

Copies to:  
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**Approximate date of commencement of proposed sale to public: As soon as practicable after this Registration Statement is declared effective.**

If any securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

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

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

**CALCULATION OF REGISTRATION FEE**

<b>Title of Each Class Of Securities To Be Registered</b>	<b>Amount To Be Registered (1) (2)</b>	<b>Proposed Maximum Offering Price Per Security (3)</b>	<b>Proposed Maximum Aggregate Offering Price</b>	<b>Amount Of Registration Fee</b>
Common stock, \$.001 par value	5,000,000	\$ 0.46	\$ 2,300,000	\$ 278.76

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, the shares of common stock offered hereby also include an indeterminate number of additional shares of common stock as may from time to time become issuable by reason of anti-dilution provisions, stock splits, stock dividends, recapitalizations or other similar transactions.

(2) Represents 355,290 shares of common stock previously issued to the selling stockholder named herein, and 4,644,710 shares of common stock that are issuable pursuant to a purchase agreement with the selling stockholder named herein.

(3) Calculated pursuant to Rule 457(c), solely for the purpose of computing the amount of the registration fee, on the basis of the average of the high and low prices of the registrant's common stock quoted on The NASDAQ Global Market on August 22, 2019.

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

**The information in this Prospectus is not complete and may be changed. The Selling Stockholder may not sell these securities under this Prospectus until the registration statement of which it is a part and filed with the Securities and Exchange Commission is effective. This Prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.**

**SUBJECT TO COMPLETION, DATED AUGUST 23, 2019**

**PRELIMINARY PROSPECTUS**



**5,000,000 Shares of Common Stock**

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This prospectus covers the offer and sale of up to 5,000,000 shares of common stock, \$0.001 par value per share, of Tonix Pharmaceuticals Holding Corp., a Nevada corporation, by Lincoln Park Capital Fund, LLC, or Lincoln Park or the Selling Stockholder.

The shares of common stock being offered by the Selling Stockholder have been or may be issued pursuant to the purchase agreement dated August 20, 2019, or the Purchase Agreement, that we entered into with Lincoln Park. See “The Lincoln Park Transaction” for a description of the Purchase Agreement and “Selling Stockholder” for additional information regarding Lincoln Park. The prices at which Lincoln Park may sell the shares of common stock will be determined by the prevailing market price for the shares of common stock or in negotiated transactions.

We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of the shares of common stock by the Selling Stockholder.

The Selling Stockholder may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. See “Plan of Distribution” for more information about how the Selling Stockholder may sell the shares of common stock being registered pursuant to this prospectus. The Selling Stockholder is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act.

We will pay the expenses incurred in registering the shares of common stock, including legal and accounting fees. See “Plan of Distribution”.

Our common stock is currently quoted on The NASDAQ Global Market under the symbol “TNXP”. On August 22, 2019, the last reported sale price of our common stock on The NASDAQ Global Market was \$0.45 per share.

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**Investing in our common stock involves a high degree of risk. Before making any investment in our common stock, you should read and carefully consider the risks described in this Prospectus under “Risk Factors” beginning on page 7 of this Prospectus.**

**You should rely only on the information contained in this Prospectus or any prospectus supplement or amendment thereto. We have not authorized anyone to provide you with different information.**

**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.**

**This Prospectus is dated \_\_\_\_\_, 2019**

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## ABOUT THIS PROSPECTUS

The registration statement of which this prospectus forms a part that we have filed with the Securities and Exchange Commission, or SEC, includes exhibits that provide more detail of the matters discussed in this prospectus. You should read this prospectus and the related exhibits filed with the SEC, together with the additional information described under the headings “Where You Can Find More Information” and “Incorporation by Reference” before making your investment decision.

You should rely only on the information provided in this prospectus or in a prospectus supplement or any free writing prospectuses or amendments thereto. Neither we, nor the Selling Stockholder, have authorized anyone else to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. You should assume that the information in this prospectus is accurate only as of the date hereof. Our business, financial condition, results of operations and prospects may have changed since that date.

Neither we, nor the Selling Stockholder, are offering to sell or seeking offers to purchase these securities in any jurisdiction where the offer or sale is not permitted. We have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities as to distribution of the prospectus outside of the United States.

## SUMMARY

*This summary highlights information contained in other parts of this prospectus and in the documents incorporated by reference. Because it is a summary, it does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this prospectus and the documents incorporated by reference in their entirety.*

*When used herein, unless the context requires otherwise, references to the “Company,” “we,” “our” and “us” refer to Tonix Pharmaceuticals Holding Corp., a Nevada corporation.*

*All trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend the use or display of other companies’ trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.*

### Company Overview

We are a clinical-stage biopharmaceutical company focused on discovering and developing small molecules and biologics to treat psychiatric, pain and addiction conditions, to improve biodefense through potential medical counter-measures and to prevent and treat organ transplant rejection. Our most advanced drug development program is focused on delivering a safe and effective long-term treatment for posttraumatic stress disorder, or PTSD. PTSD is characterized by chronic disability, inadequate treatment options, high utilization of healthcare services, and significant economic burden. We have assembled a management team with significant industry experience to lead the development of our product candidates. We complement our management team with a network of scientific, clinical, and regulatory advisors that includes recognized experts in the fields of PTSD, other central nervous system disorders and biodefense.

Our lead product candidate, TNX-102 SL, is a proprietary low-dose cyclobenzaprine, or CBP, sublingual tablet, designed for bedtime administration. TNX-102 SL is an investigational new drug that has not been approved for any indication. TNX-102 SL is in Phase 3 development as a potential treatment for PTSD. We are currently enrolling the Phase 3 RECOVERY trial, which is a double-blind, placebo-controlled study evaluating daily bedtime administration of TNX-102 SL in individuals with PTSD from trauma within 9 years of screening. The FDA has conditionally accepted the proposed trade name Tonmya<sup>®</sup> for TNX-102 SL for the treatment of PTSD. Tonix is also developing TNX-102 SL as a bedtime treatment for fibromyalgia and agitation in Alzheimer’s disease under separate Investigational New Drug applications (IND) to support potential pivotal efficacy studies. The fibromyalgia program is in Phase 3 development and the agitation in Alzheimer’s program is Phase 2 ready. We plan to meet with FDA in October 2019 to discuss a new program to study TNX-102 SL as a treatment for alcohol use disorder, or AUD, which will be developed under a separate IND. Our development pipeline also includes TNX-1300 (T172R/G173Q double-mutant cocaine esterase 200 mg, i.v. solution) which is in Phase 2 development for the treatment of cocaine intoxication. TNX-1300 is a recombinant protein enzyme produced through rDNA technology in E. coli bacteria. TNX-1300 is an investigational new biologic that has not been approved for any indication. Tonix has two other programs in the pre-IND application stage of development for PTSD, but with different mechanisms than TNX-102 SL and designed for daytime dosing: TNX-601 (tianeptine oxalate) and TNX-1600 ((2S,4R,5R)-5-(((2-aminobenzo[d]thiazol-6-yl)methyl)amino)-2-(bis(4-fluorophenyl)methyl)tetrahydro-2H-pyran-4-ol), an inhibitor of reuptake of three monoamine neurotransmitters (serotonin, norepinephrine and dopamine), or a “triple reuptake” inhibitor. TNX-601 is also in development for the potential indication of neurocognitive dysfunction associated with corticosteroid use. Tonix’s two biodefense products are TNX-801 and TNX-701. TNX-801 (live virus vaccine for percutaneous (scarification) administration) is a potential smallpox-preventing vaccine based on a synthetic version of horsepox virus and is currently in the pre-IND application stage. TNX-701 is a biodefense development program for protection from radiation injury in the pre-IND application stage. Finally, TNX-1500 is being developed to prevent and treat organ transplant rejection, as well as to treat autoimmune conditions, and is in the pre-IND application stage. We hold worldwide development and commercialization rights to all of our product candidates.

### Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider all of the information in this prospectus and in the documents incorporated by reference prior to investing in our common stock. These risks are discussed more fully in the section titled “Risk Factors” herein and in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference in this prospectus. These risks and uncertainties include, but are not limited to, the following:

- We have incurred significant losses and anticipate that we will continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability;

- Our profitability depends on our ability to develop and commercialize our current and future product candidates;
- Our ability to continue as a going concern will require us to obtain additional financing to fund our current operations, which may be unavailable on acceptable terms, or at all;
- Because our product candidates are in the clinical stage of development, there is a high risk of failure, and we may never succeed in developing marketable products or generating product revenue;
- We will require substantial additional financing to achieve our goals, and a failure to obtain necessary capital when needed would force us to delay, limit, reduce or terminate our product development or commercialization efforts;
- We may encounter substantial delays in our clinical trials, or our clinical trials may fail to demonstrate the safety and efficacy of our product candidates to the satisfaction of applicable regulatory authorities;
- It may be difficult for us to predict the time and cost of product development. Unforeseen problems may prevent further development or approval of our product candidates;
- We rely, and expect to continue to rely, on third parties to conduct preclinical studies and clinical trials for our product candidates, and if they do not properly and successfully perform their obligations to us, we may not be able to obtain regulatory approvals for our product candidates;
- We face substantial competition from other pharmaceutical and biotechnology companies, which may result in others discovering, developing or commercializing products before, or more successfully, than we do; and
- It is difficult and costly to protect our proprietary rights, and we may not be able to ensure their protection. If our patent position and other intellectual property rights do not adequately protect our product candidates, others could compete against us (including directly), which could materially harm our business, results of operations and financial condition.

### **Corporate Information**

We were incorporated on November 16, 2007 under the laws of the State of Nevada as Tamandare Explorations Inc. On October 11, 2011, we changed our name to Tonix Pharmaceuticals Holding Corp. Our principal executive offices are located at 509 Madison Avenue, Suite 1608, New York, New York 10022, and our telephone number is (212) 980-9155. Our website addresses are [www.tonixpharma.com](http://www.tonixpharma.com), [www.tonix.com](http://www.tonix.com), and [www.krele.com](http://www.krele.com). The information on our websites is not part of this prospectus. We have included our website addresses as a factual reference and do not intend them to be active links to our websites.

## THE OFFERING

On August 20, 2019, we entered into a purchase agreement with Lincoln Park, which we refer to in this prospectus as the Purchase Agreement, pursuant to which Lincoln Park has agreed to purchase from us up to an aggregate of \$15,000,000 of our common stock (subject to certain limitations) from time to time over the term of the Purchase Agreement. Also on August 20, 2019, we entered into a registration rights agreement with Lincoln Park, which we refer to in this prospectus as the Registration Rights Agreement, pursuant to which we have filed with the SEC the registration statement that includes this prospectus to register for resale under the Securities Act of 1933, as amended, or the Securities Act, the shares of common stock that have been or may be issued to Lincoln Park under the Purchase Agreement.

We do not have the right to commence any sales of our common stock to Lincoln Park under the Purchase Agreement until all of the conditions set forth in the Purchase Agreement, all of which are outside of Lincoln Park's control, have been satisfied, including that the SEC has declared effective the registration statement that includes this prospectus, which we refer to in this prospectus as the Commencement. Lincoln Park has committed to purchase, from time to time and at our sole discretion, on any single business day, shares of our common stock in amounts up to 75,000 shares, which amounts may be increased to up to 175,000 shares depending on the market price of our common stock at the time of sale and subject to a maximum commitment by Lincoln Park of \$1,000,000 per single purchase, which we refer to in this prospectus as "regular purchases", plus other "accelerated amounts" and/or "additional accelerated amounts" under certain circumstances. We will control the timing and amount of any sales of our common stock to Lincoln Park. The purchase price of the shares that may be sold to Lincoln Park in regular purchases under the Purchase Agreement will be based on the market price of our common stock preceding the time of sale as computed under the Purchase Agreement. The purchase price per share will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, or other similar transaction occurring during the business days used to compute such price. We may at any time in our sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business day notice. For entering into this commitment, we issued Lincoln Park 355,290 shares of our common stock as Commitment Shares. There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement, other than a prohibition on our entering into certain types of transactions that are defined in the Purchase Agreement as "Variable Rate Transactions". Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement.

As of August 22, 2019, there were 15,717,402 shares of our common stock outstanding, including the 355,290 Commitment Shares issued to Lincoln Park, of which 15,648,911 shares were held by non-affiliates. Although the Purchase Agreement provides that we may sell up to \$15,000,000 of our common stock to Lincoln Park, only 5,000,000 shares of our common stock are being offered under this prospectus, which represents shares which have been or may be issued to Lincoln Park in the future under the Purchase Agreement. Depending on the market prices of our common stock at the time we elect to issue and sell shares to Lincoln Park under the Purchase Agreement, we may need to register for resale under the Securities Act additional shares of our common stock in order to receive aggregate gross proceeds equal to the \$15,000,000 total commitment available to us under the Purchase Agreement. If all of the 5,000,000 shares offered by Lincoln Park under this prospectus were issued and outstanding as of the date hereof, such shares would represent approximately 24.6% of the total number of shares of our common stock outstanding, and approximately 24.6% of the total number of outstanding shares excluding shares held by affiliates, in each case as of the date hereof. If we elect to issue and sell more than the 5,000,000 shares offered under this prospectus to Lincoln Park, which we have the right, but not the obligation, to do, we must first register for resale under the Securities Act any such additional shares, which could cause additional substantial dilution to our stockholders. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement.



Under applicable rules of The Nasdaq Global Market, in no event may we issue or sell to Lincoln Park under the Purchase Agreement more than 19.99% of the shares of our common stock outstanding immediately prior to the execution of the Purchase Agreement (which is 3,070,886 shares based on 15,362,112 shares outstanding immediately prior to the execution of the Purchase Agreement), which limitation we refer to as the Exchange Cap, unless (i) we obtain stockholder approval to issue shares of common stock in excess of the Exchange Cap or (ii) the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equals or exceeds the average of the closing price of our common stock on the Nasdaq Global Market for the five business days immediately preceding the signing of the Purchase Agreement plus an incremental amount, such that issuances and sales of our common stock to Lincoln Park under the Purchase Agreement would be exempt from the Exchange Cap limitation under applicable Nasdaq rules. In any event, the Purchase Agreement specifically provides that we may not issue or sell any shares of our common stock under the Purchase Agreement if such issuance or sale would breach any applicable Nasdaq rules.

The Purchase Agreement also prohibits us from directing Lincoln Park to purchase any shares of common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would result in Lincoln Park and its affiliates having beneficial ownership, at any single point in time, of more than 4.99% of the then total outstanding shares of our common stock, as calculated pursuant to Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and Rule 13d-3 thereunder, which limitation we refer to as the Beneficial Ownership Cap.

Issuances of our common stock in this offering will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted as a result of any such issuance. Although the number of shares of common stock that our existing stockholders own will not decrease, the shares owned by our existing stockholders will represent a smaller percentage of our total outstanding shares after any such issuance to Lincoln Park.

## SUMMARY OF THE OFFERING

<b>Common stock offered by the Selling Stockholder</b>	5,000,000 shares consisting of 355,290 Commitment Shares issued to Lincoln Park upon execution of the Purchase Agreement and 4,644,710 shares we may sell to Lincoln Park under the Purchase Agreement from time to time after the date of this prospectus
<b>Common stock outstanding immediately prior to this offering</b>	15,362,112 shares.
<b>Common stock to be outstanding immediately following this offering</b>	20,362,112 shares.
<b>Use of proceeds</b>	We will receive no proceeds from the sale of shares of common stock by Lincoln Park in this offering. We may receive up to \$15,000,000 in aggregate gross proceeds under the Purchase Agreement from any sales we make to Lincoln Park pursuant to the Purchase Agreement after the date of this prospectus. Any proceeds that we receive from sales to Lincoln Park under the Purchase Agreement will be used for working capital and general corporate purposes. See "Use of Proceeds."
<b>The Nasdaq Global Market symbol</b>	"TNXP"
<b>Risk factors</b>	You should carefully consider the information set forth in this Prospectus and, in particular, the specific factors set forth in the "Risk Factors" section beginning on page 7 of this Prospectus before deciding whether or not to invest in our common stock.

The number of shares of common stock to be outstanding after this offering is based on 15,717,402 shares of common stock outstanding at August 22, 2019 (including 355,290 Commitment Shares issued to Lincoln Park upon execution of the Purchase Agreement) and excludes the following:

- 1,090,044 shares of common stock issuable upon exercise of stock options outstanding at a weighted-average exercise price of \$19.84 per share;
- 4,964,846 shares of common stock issuable upon exercise of warrants outstanding at a weighted-average exercise price of \$4.21 per share;
- 558,300 shares of common stock reserved and available for issuance under our equity compensation plan; and
- 126,208 shares of common stock reserved and available for issuance under our employee stock purchase plan.

Unless otherwise indicated, all information in this prospectus reflects or assumes no issuance or exercise of stock options or warrants on or after June 30, 2019.

## RISK FACTORS

*An investment in our common stock is speculative and involves a high degree of risk including the risk of a loss of your entire investment. You should carefully consider the following risk factors, as well as those set forth under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, as updated by our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2019 and June 30, 2019, which are incorporated by reference in this prospectus. These risk factors contain, in addition to historical information, forward looking statements that involve risks and uncertainties. Our actual results could differ significantly from the results discussed in the forward looking statements. The occurrence of any of the following adverse developments described in the following risk factors and in the documents incorporated by reference could materially and adversely harm our business, financial condition, results of operations or prospects. In such event, the value of our common stock could decline, and you could lose all or a substantial portion of the money that you pay for our common stock. In addition, the risks and uncertainties discussed below and in the documents incorporated by reference are not the only ones we face. Our business, financial condition, results of operations or prospects could also be harmed by risks and uncertainties not currently known to us or that we currently do not believe are material, and these risks and uncertainties could result in a complete loss of your investment. In assessing the risks and uncertainties described below, you should also refer to the other information contained in this prospectus (as supplemented or amended) and the documents incorporated by reference in this prospectus.*

### **Risks Related to our Securities and the Offering**

***The sale or issuance of our common stock to Lincoln Park may cause dilution and the sale of the shares of common stock acquired by Lincoln Park, or the perception that such sales may occur, could cause the price of our common stock to fall***

On August 20, 2019, we entered into the Purchase Agreement with Lincoln Park, pursuant to which Lincoln Park has committed to purchase up to \$15,000,000 of our common stock. Upon the execution of the Purchase Agreement, we issued 355,290 Commitment Shares to Lincoln Park as a fee for its commitment to purchase shares of our common stock under the Purchase Agreement. The remaining shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Lincoln Park at our discretion from time to time over a 30-month period commencing after the satisfaction of certain conditions set forth in the Purchase Agreement, including that the SEC has declared effective the registration statement that includes this prospectus. The purchase price for the shares that we may sell to Lincoln Park under the Purchase Agreement will fluctuate based on the price of our common stock. Depending on market liquidity at the time, sales of such shares may cause the trading price of our common stock to fall.

We generally have the right to control the timing and amount of any future sales of our shares to Lincoln Park. Additional sales of our common stock, if any, to Lincoln Park will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us could result in substantial dilution to the interests of other holders of our common stock. Additionally, the sale of a substantial number of shares of our common stock to Lincoln Park, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

***If we sell shares of our common stock in future financings, stockholders may experience immediate dilution and, as a result, our stock price may decline.***

We may from time to time issue additional shares of common stock at a discount from the current market price of our common stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. If we issue common stock or securities convertible into common stock, our common stockholders would experience additional dilution and, as a result, our stock price may decline.

***We will have broad discretion in how we use the net proceeds of this offering. We may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.***

We will have considerable discretion in the application of the net proceeds of this offering, including for any of the purposes described in the section entitled "Use of Proceeds." We intend to use the net proceeds from this offering to fund clinical development of our product candidates and working capital and other general corporate purposes. As a result, investors will be relying upon management's judgment with only limited information about our specific intentions for the use of the balance of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

***An active trading market for our common stock may not be sustained.***

Although our common stock is listed on the NASDAQ Global Market, the market for our shares has demonstrated varying levels of trading activity. Furthermore, the current level of trading may not be sustained in the future. The lack of an active market for our common stock may impair investors' ability to sell their shares at the time they wish to sell them or at a price that they consider reasonable, may reduce the fair market value of their shares and may impair our ability to raise capital to continue to fund operations by selling shares and may impair our ability to acquire additional intellectual property assets by using our shares as consideration.

***The market price for our common stock may be volatile, and an investment in our common stock could decline in value.***

The stock market in general has experienced extreme price and volume fluctuations. The market prices of the securities of biotechnology and specialty pharmaceutical companies, particularly companies like ours without product revenues and earnings, have been highly volatile and may continue to be highly volatile in the future. This volatility has often been unrelated to the operating performance of particular companies. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

- announcements of technological innovations or new products by us or our competitors;
- announcement of FDA approval or disapproval of our product candidates or other product-related actions;
- developments involving our discovery efforts and clinical studies;
- developments or disputes concerning patents or proprietary rights, including announcements of infringement, interference or other litigation against us or our potential licensees;
- developments involving our efforts to commercialize our products, including developments impacting the timing of commercialization;
- announcements concerning our competitors, or the biotechnology, pharmaceutical or drug delivery industry in general;
- public concerns as to the safety or efficacy of our product candidates or our competitors' products;
- changes in government regulation of the pharmaceutical or medical industry;
- changes in the reimbursement policies of third party insurance companies or government agencies;
- actual or anticipated fluctuations in our operating results;
- changes in financial estimates or recommendations by securities analysts;

- developments involving corporate collaborators, if any;
- changes in accounting principles; and
- the loss of any of our key scientific or management personnel.

In the past, securities class action litigation has often been brought against companies that experience volatility in the market price of their securities. Whether or not meritorious, litigation brought against us could result in substantial costs and a diversion of management's attention and resources, which could adversely affect our business, operating results and financial condition.

***We could be delisted from Nasdaq, which could seriously harm the liquidity of our stock and our ability to raise capital.***

A company failing to meet the minimum bid price under Nasdaq Listing Rule 5810(c)(3)(A) for 30 consecutive business days will receive a written notice from Nasdaq staff indicating that, based on the closing bid price of its common stock, it no longer meets the requirement to maintain a minimum bid price of \$1 per share, as set forth in Nasdaq Listing Rule 5550(a)(2), and will have a period of 180 calendar days in which to regain compliance in accordance with Nasdaq Listing Rule 5810(c)(3)(A). As of August 23, 2019, we failed to meet the minimum bid price under Nasdaq Listing Rule 5810(c)(3)(A) for 30 days, and expect to receive a notice from Nasdaq staff in the coming days indicating that we will have until approximately February 19, 2020 to regain compliance. However, we may be unable to regain compliance with our current minimum bid price obligation or other listing requirements, which could cause us to lose eligibility for continued listing on the Nasdaq Capital Market or any comparable trading market.

If we cease to be eligible to trade on Nasdaq:

- We may have to pursue trading on a less recognized or accepted market, such as the OTC Bulletin Board or the "pink sheets."
- Shares of our common stock could be less liquid and marketable, thereby reducing the ability of stockholders to purchase or sell our shares as quickly and as inexpensively as they have done historically. If our stock is traded as a "penny stock," transactions in our stock would be more difficult and cumbersome.
- We may be unable to access capital on favorable terms or at all, as companies trading on alternative markets may be viewed as less attractive investments with higher associated risks, such that existing or prospective institutional investors may be less interested in, or prohibited from, investing in our common stock. This may also cause the market price of our common stock to decline.

***We do not anticipate paying dividends on our common stock and, accordingly, stockholders must rely on stock appreciation for any return on their investment.***

We have never declared or paid cash dividends on our common stock and do not expect to do so in the foreseeable future. The declaration of dividends is subject to the discretion of our board of directors and limitations under applicable law, and will depend on various factors, including our operating results, financial condition, future prospects and any other factors deemed relevant by our board of directors. You should not rely on an investment in our company if you require dividend income from your investment in our company. The success of your investment will likely depend entirely upon any future appreciation of the market price of our common stock, which is uncertain and unpredictable. There is no guarantee that our common stock will appreciate in value.

***We expect that our quarterly results of operations will fluctuate, and this fluctuation could cause our stock price to decline.***

Our quarterly operating results are likely to fluctuate in the future. These fluctuations could cause our stock price to decline. The nature of our business involves variable factors, such as the timing of the research, development and regulatory pathways of our product candidates, which could cause our operating results to fluctuate.

Due to the possibility of fluctuations in our revenues and expenses, we believe that quarter-to-quarter comparisons of our operating results are not a good indication of our future performance.

***The rights of the holders of common stock may be impaired by the potential issuance of preferred stock.***

Our articles of incorporation give our board of directors the ability to designate and issue preferred stock in one or more series. As a result, the board of directors may, without stockholder approval, issue preferred stock with voting, dividend, conversion, liquidation or other rights which could adversely affect the relative voting power and equity interest of the holders of common stock. Preferred stock, which could be issued with the right to more than one vote per share, could have the effect of discouraging, delaying or preventing a change of control of us. The possible impact on takeover attempts could adversely affect the price of our common stock. Although we have no present intention to designate any series, or issue any shares, of preferred stock, we may do so in the future.

***If securities or industry analysts do not publish research or reports about our business, or if they change their recommendations regarding our stock adversely, our stock price and trading volume could decline.***

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. Our research coverage by industry and financial analysts is currently limited. Even if our analyst coverage increases, if one or more of the analysts who cover us downgrade our stock, our stock 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 in turn could cause our stock price or trading volume to decline.

## FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated herein by reference contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on our management's current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" incorporated by reference from our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

All statements, other than statements of historical fact, included or incorporated herein regarding our strategy, future operations, financial position, future revenues, projected costs, plans, prospects and objectives are forward-looking statements. Words such as "expect," "anticipate," "intend," "plan," "believe," "seek," "estimate," "think," "may," "could," "will," "would," "should," "continue," "potential," "likely," "opportunity" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements. Additionally, forward-looking statements include statements concerning future matters such as our anticipated expenditures, including those related to pre-clinical and clinical trials and research studies and general and administrative expenses, the potential size of the markets for our products, future development and/or expansion of our products and therapies in our markets, our ability to generate product revenues or effectively manage our gross profit margins, our ability to obtain regulatory clearances, our ability to commercialize our novel cell therapy platform products and our nanomedicine platform, expectations as to our future performance, liquidity and capital resources, including our potential need for additional financing and the availability thereof as well as our ability to continue to service our existing debt, and the potential enhancement of our cash position and stock price through development, marketing, and licensing arrangements. Such statements are based on currently available operating, financial and competitive information and are subject to various risks, uncertainties and assumptions that could cause actual results to differ materially from those anticipated or implied in our forward-looking statements due to a number of factors including, but not limited to, our need and ability to raise additional cash, our joint ventures, risks associated with laws or regulatory requirements applicable to us, the impact of changes in the tax code as a result of recent federal tax legislation and uncertainty as to how some of those changes may be applied, market conditions, product performance, potential litigation, competition within the regenerative medicine field, and other factors set forth above under the section entitled "Risk Factors" in this prospectus and any accompanying prospectus supplement. Given these risks, uncertainties and other factors, many of which are beyond our control, you should not place undue reliance on these forward-looking statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

## THE LINCOLN PARK TRANSACTION

### General

On August 20, 2019, we entered into the Purchase Agreement and the Registration Rights Agreement with Lincoln Park. Pursuant to the terms of the Purchase Agreement, Lincoln Park has agreed to purchase from us up to \$15,000,000 of our common stock (subject to certain limitations) from time to time during the term of the Purchase Agreement. Pursuant to the terms of the Registration Rights Agreement, we have filed with the SEC the registration statement that includes this prospectus to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the Purchase Agreement. At the time we executed the Purchase Agreement and the Registration Rights Agreement, we issued Lincoln Park 355,290 shares of our common stock and paid Lincoln Park \$100,000 in cash as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement.

We do not have the right to commence any sales to Lincoln Park under the Purchase Agreement until the Commencement has occurred, which is the time at which all of the conditions set forth in the Purchase Agreement, all of which are outside of Lincoln Park's control, have been satisfied, including the registration statement that includes this prospectus being declared effective by the SEC. Lincoln Park has committed to purchase, from time to time and at our sole discretion, shares of our common stock in regular purchases in amounts up to 75,000 shares which amounts may be increased to up to 175,000 shares depending on the market price of our common stock at the time of sale and subject to a maximum commitment by Lincoln Park of \$1,000,000 per singular regular purchase. The purchase price per share sold in regular purchases will be based on the market price of our common stock immediately preceding the time of sale as computed under the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement.

Under applicable rules of The Nasdaq Global Market, in no event may we issue or sell to Lincoln Park under the Purchase Agreement share of our common stock in excess of the Exchange Cap (which is 3,070,886 shares, or 19.99% of the shares of our common stock outstanding immediately prior to the execution of the Purchase Agreement), unless (i) we obtain stockholder approval to issue shares of common stock in excess of the Exchange Cap or (ii) the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equals or exceeds the average of the closing price of our common stock on the Nasdaq Global Market for the five business days immediately preceding the signing of the Purchase Agreement plus an incremental amount, such that issuances and sales of our common stock to Lincoln Park under the Purchase Agreement would be exempt from the Exchange Cap limitation under applicable Nasdaq rules. In any event, the Purchase Agreement specifically provides that we may not issue or sell any shares of our common stock under the Purchase Agreement if such issuance or sale would breach any applicable rules Nasdaq rules.

The Purchase Agreement also prohibits us from directing Lincoln Park to purchase any shares of common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would result in Lincoln Park exceeding the Beneficial Ownership Cap.

### Purchase of Shares Under the Purchase Agreement

Under the Purchase Agreement, we may direct Lincoln Park to purchase up to 75,000 shares of our common stock in a regular purchase on such business day, which is referred to as a Regular Purchase in this prospectus, provided, however, that (i) the Regular Purchase may be increased to up to 100,000 shares, provided that the closing sale price of our common stock is not below \$0.50 on the purchase date (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement); (ii) the Regular Purchase may be increased to up to 125,000 shares, provided that the closing sale price of our common stock is not below \$1.00 on the purchase date (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement); (iii) the Regular Purchase may be increased to up to 150,000 shares, provided that the closing sale price of our common stock is not below \$1.50 on the purchase date (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement); and (iv) the Regular Purchase may be increased to up to 175,000 shares, provided that the closing sale price of our common stock is not below \$2.00 on the purchase date (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement) (such share amount limitation, the "Regular Purchase Share Limit"). In each case, Lincoln Park's maximum commitment in any single Regular Purchase may not exceed \$1,000,000. The Regular Purchase Share Limit is subject to proportionate adjustment in the event of a reorganization, recapitalization, non-cash dividend, stock split or other similar transaction; provided, that if after giving effect to such full proportionate adjustment, the adjusted Regular Purchase Share Limit would preclude us from requiring Lincoln Park to purchase common stock at an aggregate purchase price equal to or greater than \$100,000 in any single Regular Purchase, then the Regular Purchase Share Limit will not be fully adjusted, but rather the Regular Purchase Share Limit for such Regular Purchase shall be adjusted as specified in the Purchase Agreement, such that, after giving effect to such adjustment, the Regular Purchase Share Limit will be equal to (or as close as can be derived from such adjustment without exceeding) \$100,000.



The purchase price per share for each such Regular Purchase will be equal to the lower of:

- the lowest sale price for our common stock on the purchase date of such shares; or
- the arithmetic average of the three lowest closing sale prices for our common stock during the 10 consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition to Regular Purchases described above, we may also direct Lincoln Park, on any business day on which we have properly submitted a Regular Purchase notice directing Lincoln Park to purchase the maximum number of shares of our common stock that we are then permitted to include in a single Regular Purchase notice and the closing sale price of our common stock on such business day is not below \$0.50 per share (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement), to purchase an additional amount of our common stock, which we refer to as an Accelerated Purchase, not to exceed the lesser of:

- 30% of the aggregate shares of our common stock traded during all or, if certain trading volume or market price thresholds specified in the Purchase Agreement are crossed on the applicable Accelerated Purchase date, which is defined as the next business day following the purchase date for the corresponding Regular Purchase, the portion of the normal trading hours on the applicable Accelerated Purchase date prior to such time that any one of such thresholds is crossed, which period of time on the applicable Accelerated Purchase date we refer to as the Accelerated Purchase Measurement Period; and
- three times the number of purchase shares purchased pursuant to the corresponding Regular Purchase.

The purchase price per share for each such Accelerated Purchase will be equal to the lower of:

- 96% of the volume weighted average price of our common stock during the applicable Accelerated Purchase Measurement Period on the applicable Accelerated Purchase date; and
- the closing sale price of our common stock on the applicable Accelerated Purchase date.

We may also direct Lincoln Park, not later than 1:00 p.m., Eastern time, on a business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder (and under the corresponding Regular Purchase) have been properly delivered to Lincoln Park in accordance with the Purchase Agreement prior to such time on such business day, and provided that the closing price of our common stock on the business day immediately preceding such business day is not less than \$0.50 per share (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement), to purchase an additional amount of our common stock, which we refer to as an Additional Accelerated Purchase, of up to the lesser of:

- 30% of the aggregate shares of our common stock traded during a certain portion of the normal trading hours on such Accelerated Purchase date as determined in accordance with the Purchase Agreement, which period of time we refer to as the Additional Accelerated Purchase Measurement Period; and

- three times the number of purchase shares purchased pursuant to the Regular Purchase corresponding to the Accelerated Purchase that was completed on such Accelerated Purchase date on which an additional accelerated Purchase notice was properly received.

We may, in our sole discretion, submit multiple Additional Accelerated Purchase notices to Lincoln Park prior to 1:00 p.m., Eastern time, on a single Accelerated Purchase date, provided that all prior Accelerated Purchases and Additional Accelerated Purchases (including those that have occurred earlier on the same day) have been completed and all of the shares to be purchased thereunder (and under the corresponding Regular Purchase) have been properly delivered to Lincoln Park in accordance with the Purchase Agreement.

The purchase price per share for each such Additional Accelerated Purchase will be equal to the lower of:

- 96% of the volume weighted average price of our common stock during the applicable Additional Accelerated Purchase Measurement Period on the applicable Additional Accelerated Purchase date; and
- the closing sale price of our common stock on the applicable Additional Accelerated Purchase date.

In addition to Regular Purchases, Accelerated Purchase and Additional Accelerated Purchases as described above, we may also direct Lincoln Park, on any business day which the closing sale price of our common stock on such business day is not below \$1.00 per share (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement) and at least 15 business days have passed since the most recent Tranche Purchase was completed, to purchase an additional amount of our common stock, which we refer to as a Tranche Purchase, not to exceed \$400,000 for any single Tranche Purchase and \$2,000,000 in the aggregate.

The purchase price per share for each Tranche Purchase will be the lower of:

- \$5.50 and
- 96% of the lower of (i) the lowest sale price of our common stock on the Tranche Purchase date and (ii) the arithmetic average of the three (3) lowest closing sale prices for our common stock during the ten consecutive business days ending on the day immediately preceding the Tranche Purchase date (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Agreement).

In the case of Regular Purchases, Accelerated Purchases, Additional Accelerated Purchases and Tranche Purchases, the purchase price per share will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price.

Other than as described above, there are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Lincoln Park.

#### **Events of Default**

Events of default under the Purchase Agreement include the following:

- the effectiveness of the registration statement of which this prospectus forms a part lapses for any reason (including, without limitation, the issuance of a stop order), or any required prospectus supplement and accompanying prospectus are unavailable for the resale by Lincoln Park of our common stock offered hereby, and such lapse or unavailability continues for a period of 10 consecutive business days or for more than an aggregate of 30 business days in any 365-day period;
- suspension by our principal market of our common stock from trading for a period of one business day;

- the de-listing of our common stock from The Nasdaq Global Market, our principal market, provided our common stock is not immediately thereafter trading on the New York Stock Exchange, the Nasdaq Capital Market, the Nasdaq Global Select Market, the NYSE American, the OTC Bulletin Board or OTC Markets (or nationally recognized successor thereto);
- the failure of our transfer agent to issue to Lincoln Park shares of our common stock within two business days after the applicable date on which Lincoln Park is entitled to receive such shares;
- any breach of the representations or warranties or covenants contained in the Purchase Agreement or Registration Rights Agreement that has or could have a material adverse effect on us and, in the case of a breach of a covenant that is reasonably curable, that is not cured within five business days;
- if at any time the Exchange Cap is reached, to the extent applicable;
- any voluntary or involuntary participation or threatened participation in insolvency or bankruptcy proceedings by or against us; or
- if at any time we are not eligible to transfer our common stock electronically.

Lincoln Park does not have the right to terminate the Purchase Agreement upon any of the events of default set forth above. During an event of default, all of which are outside of Lincoln Park's control, we may not direct Lincoln Park to purchase any shares of our common stock under the Purchase Agreement.

#### **Our Termination Rights**

We have the unconditional right, at any time, for any reason and without any payment or liability to us, to give notice to Lincoln Park to terminate the Purchase Agreement. In the event of bankruptcy proceedings by or against us, the Purchase Agreement will automatically terminate without action of any party.

#### **No Short-Selling or Hedging by Lincoln Park**

Lincoln Park has agreed that neither it nor any of its affiliates shall engage in any direct or indirect short-selling or hedging of our common stock during any time prior to the termination of the Purchase Agreement.

#### **Prohibitions on Variable Rate Transactions**

There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement other than a prohibition on entering into a "Variable Rate Transaction," as defined in the Purchase Agreement.

#### **Effect of Performance of the Purchase Agreement on Our Stockholders**

All 5,000,000 shares registered in this offering which have been or may be issued or sold by us to Lincoln Park under the Purchase Agreement are expected to be freely tradable. It is anticipated that shares registered in this offering will be sold over a period of up to 30-months commencing on the date that the registration statement including this prospectus becomes effective. The sale by Lincoln Park of a significant amount of shares registered in this offering at any given time could cause the market price of our common stock to decline and to be highly volatile. Sales of our common stock to Lincoln Park, if any, will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us under the Purchase Agreement may result in substantial dilution to the interests of other holders of our common stock. In addition, if we sell a substantial number of shares to Lincoln Park under the Purchase Agreement, or if investors expect that we will do so, the actual sales of shares or the mere existence of our arrangement with Lincoln Park may make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect such sales. However, we have the right to control the timing and amount of any additional sales of our shares to Lincoln Park and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

Pursuant to the terms of the Purchase Agreement, we have the right, but not the obligation, to direct Lincoln Park to purchase up to \$15,000,000 of our common stock. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park under the Purchase Agreement more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to the \$15,000,000 total commitment available to us under the Purchase Agreement. If we choose to do so, we must first register for resale under the Securities Act such additional shares of our common stock, which could cause additional substantial dilution to our stockholders. The number of shares ultimately offered for resale by Lincoln Park under this prospectus is dependent upon the number of shares we direct Lincoln Park to purchase under the Purchase Agreement.

The Purchase Agreement prohibits us from issuing or selling to Lincoln Park under the Purchase Agreement (i) shares of our common stock in excess of the Exchange Cap, unless we obtain stockholder approval to issue shares in excess of the Exchange Cap or the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equal or exceed \$0.555 (which represents the closing consolidated bid price of our common stock on August 19, 2019, plus an incremental amount to account for our issuance of the Commitment Shares to Lincoln Park), such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable Nasdaq rules, and (ii) any shares of our common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would exceed the Beneficial Ownership Cap.

The following table sets forth the amount of gross proceeds we would receive from Lincoln Park from our sale of shares to Lincoln Park under the Purchase Agreement at varying purchase prices:

<b>Assumed Average Purchase Price Per Share</b>	<b>Number of Registered Shares to be Issued if Full Purchase (1)</b>	<b>Percentage of Outstanding Shares After Giving Effect to the Issuance to Lincoln Park (2)</b>	<b>Proceeds from the Sale of Shares to Lincoln Park Under the \$15M Purchase Agreement</b>
\$0.45 (3)	2,715,596	14.73	\$1,222,018
\$0.50	2,715,596	14.73	\$1,357,798
\$1.00	4,644,710	22.81	\$4,644,710
\$2.00	4,644,710	22.81	\$9,289,420
\$3.2294	4,644,710	22.81	\$15,000,000

- (1) Although the Purchase Agreement provides that we may sell up to \$15,000,000 of our common stock to Lincoln Park, we are only registering 5,000,000 shares under this prospectus which represents: (i) 355,290 Commitment Shares that we already issued to Lincoln Park, and (ii) an additional 4,644,710 shares which may be issued to Lincoln Park in the future under the Purchase Agreement, if and when we sell shares to Lincoln Park under the Purchase Agreement, and which may or may not cover all the shares we ultimately sell to Lincoln Park under the Purchase Agreement, depending on the purchase price per share. As a result, we have included in this column only those shares that we are registering in this offering and excludes the 355,290 Commitment Shares previously issued and registered because no proceeds will be attributable to such shares, (ii) gives effect to the Exchange Cap and (iii) is without regard for the Beneficial Ownership Cap. If we seek to issue shares of our common stock, including shares from other transactions that may be aggregated with the transactions contemplated by the Purchase Agreement under the applicable rules of The Nasdaq Global Market, in excess of 3,070,886 shares, or 19.99% of the total common stock outstanding immediately prior to the execution of the Purchase Agreement, we may be required to seek stockholder approval in order to be in compliance with the rules of The Nasdaq Global Market.
- (2) The denominator is based on 15,717,402 shares outstanding as of August 22, 2019, adjusted to include the 355,290 shares that we already issued to Lincoln Park as Commitment Shares, and the number of shares set forth in the adjacent column which we would have sold to Lincoln Park assuming the purchase price in the adjacent column. The numerator is based on the number of shares issuable under the Purchase Agreement at the corresponding assumed purchase price set forth in the adjacent column.
- (3) The closing sale price of our shares on August 22, 2019.

#### USE OF PROCEEDS

This prospectus relates to shares of our common stock that may be offered and sold from time to time by Lincoln Park. We will receive no proceeds from the sale of shares of common stock by Lincoln Park in this offering. We may receive up to \$15,000,000 in aggregate gross proceeds under the Purchase Agreement from any sales we make to Lincoln Park pursuant to the Purchase Agreement after the date of this prospectus. We estimate that the net proceeds to us from the sale of our common stock to Lincoln Park pursuant to the Purchase Agreement will be up to \$14,885,000 over an approximately 30-month period, assuming that we sell the full amount of our common stock that we have the right, but not the obligation, to sell to Lincoln Park under the Purchase Agreement, and after other estimated fees and expenses. See “Plan of Distribution” elsewhere in this prospectus for more information.

We expect to use any proceeds that we receive under the Purchase Agreement for working capital and general corporate purposes.

## SELLING STOCKHOLDER

This prospectus relates to the possible resale by the selling stockholder, Lincoln Park, of shares of common stock that have been or may be issued to Lincoln Park pursuant to the Purchase Agreement. We are filing the registration statement of which this prospectus forms a part pursuant to the provisions of the Registration Rights Agreement, which we entered into with Lincoln Park on August 20, 2019 concurrently with our execution of the Purchase Agreement, in which we agreed to provide certain registration rights with respect to sales by Lincoln Park of the shares of our common stock that have been or may be issued to Lincoln Park under the Purchase Agreement.

Lincoln Park, as the selling stockholder, may, from time to time, offer and sell pursuant to this prospectus any or all of the shares that we have issued or may sell to Lincoln Park under the Purchase Agreement. The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares.

The following table presents information regarding the selling stockholder and the shares that it may offer and sell from time to time under this prospectus. The table is prepared based on information supplied to us by the Selling Stockholder and reflects its holdings as of August 22, 2019. Neither Lincoln Park nor any of its affiliates has held a position or office, or had any other material relationship, with us or any of our predecessors or affiliates other than pursuant to the prior purchase agreement and registration rights agreement between us and Lincoln Park, each dated August 20, 2019. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and Rule 13d-3 thereunder.

Selling Stockholder	Shares Beneficially Owned Before this Offering	Percentage of Outstanding Shares Beneficially Owned Before this Offering	Shares to be Sold in this Offering Assuming the Company issues the Maximum Number of Shares Under the Purchase Agreement	Percentage of Outstanding Shares Beneficially Owned After this Offering
Lincoln Park Capital Fund, LLC (1)	456,190 (2)	2.9 (3)	5,000,000 (4)	0.5 (5)

- (1) Josh Scheinfeld and Jonathan Cope, the Managing Members of Lincoln Park Capital, LLC, are deemed to be beneficial owners of all of the shares of common stock owned by Lincoln Park Capital Fund, LLC. Messrs. Cope and Scheinfeld have shared voting and investment power over the shares being offered under the prospectus filed with the SEC in connection with the transactions contemplated under the Purchase Agreement. Lincoln Park Capital, LLC is not a licensed broker dealer or an affiliate of a licensed broker dealer.
- (2) Represents (i) 355,290 Commitment Shares of our common stock issued to Lincoln Park upon our execution of the Purchase Agreement as a fee for its commitment to purchase shares of our common stock under the Purchase Agreement, all of which shares are covered by the registration statement that includes this prospectus, and (ii) 100,900 shares of common stock issuable upon exercise of outstanding warrants. We have excluded from the number of shares beneficially owned by Lincoln Park prior to the offering all of the additional shares of common stock that Lincoln Park may be required to purchase pursuant to the Purchase Agreement, because the issuance of such shares is solely at our discretion and is subject to certain conditions, the satisfaction of all of which are outside of Lincoln Park's control, including the registration statement of which this prospectus is a part becoming and remaining effective. Furthermore, under the terms of the Purchase Agreement, issuances and sales of shares of our common stock to Lincoln Park are subject to certain limitations on the amounts we may sell to Lincoln Park at any time, including the Exchange Cap and the Beneficial Ownership Cap. See the description under the heading "The Lincoln Park Transaction" for more information about the Purchase Agreement.
- (3) Based on 15,717,402 outstanding shares of our common stock as of August 22, 2019, which includes the Commitment Shares we issued to Lincoln Park on August 20, 2019.

- (4) Although the Purchase Agreement provides that we may sell up to \$15,000,000 of our common stock to Lincoln Park, only 5,000,000 shares of our common stock are being offered under this prospectus, which represents: (i) 355,290 Commitment Shares issued to Lincoln Park upon our execution of the Purchase Agreement as a fee for its commitment to purchase shares of our common stock under the Purchase Agreement; and (ii) an aggregate of 4,644,710 shares of our common stock that may be sold by us to Lincoln Park at our discretion from time to time over a 30-month period commencing after the satisfaction of certain conditions set forth in the Purchase Agreement, including that the SEC has declared effective the registration statement that includes this prospectus. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park under the Purchase Agreement more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to the \$15,000,000 total commitment available to us under the Purchase Agreement. If we choose to do so, we must first register for resale under the Securities Act such additional shares. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement.
- (5) Assumes the sale of all shares of common stock registered pursuant to this prospectus, although the selling stockholder is under no obligation to sell any shares of common stock at this time.

## MARKET PRICE OF OUR COMMON STOCK AND RELATED STOCKHOLDER MATTERS

Our common stock trades on the Nasdaq Global Market under the symbol “TNXP”. The following table sets forth the range of high and low sales prices per share of our common stock during the periods shown.

	Fiscal Year 2019			
	High		Low	
First Quarter	\$	4.20	\$	1.70
Second Quarter	\$	3.14	\$	1.25
Third Quarter (through August 22, 2019)	\$	1.50	\$	0.43

	Fiscal Year 2018			
	High		Low	
First Quarter	\$	43.50	\$	29.00
Second Quarter	\$	51.10	\$	27.00
Third Quarter	\$	48.00	\$	5.80
Fourth Quarter	\$	9.88	\$	1.70

	Fiscal Year 2017			
	High		Low	
First Quarter	\$	94.00	\$	33.01
Second Quarter	\$	58.10	\$	38.00
Third Quarter	\$	47.70	\$	28.50
Fourth Quarter	\$	49.90	\$	33.10

### Holders

As of August 22, 2019 we had 105 registered holders of record of our common stock. A substantially greater number of holders of our common stock are “street name” or beneficial holders, whose shares of record are held through banks, brokers, other financial institutions and registered clearing agencies.



## **DIVIDEND POLICY**

We have never paid any cash dividends on our capital stock and do not anticipate paying any cash dividends on our common stock in the foreseeable future. We intend to retain future earnings to fund ongoing operations and future capital requirements of our business. Any future determination to pay cash dividends will be at the discretion of the Board and will be dependent upon our financial condition, results of operations, capital requirements and such other factors as the Board deems relevant.

## DESCRIPTION OF SECURITIES

*The following is a summary of all material characteristics of our capital stock as set forth in our articles of incorporation and bylaws. The summary does not purport to be complete and is qualified in its entirety by reference to our articles of incorporation and bylaws, each as amended, and to the provisions of Chapters 78 and 92A of the Nevada Revised Statutes, as amended ("NRS").*

### **Common Stock**

We are authorized to issue up to 150,000,000 shares of our common stock, par value \$0.001 per share. As of August 22, 2019, there were 15,717,402 shares of our common stock issued and outstanding. The outstanding shares of our common stock are validly issued, fully paid and nonassessable.

Holders of our common stock are entitled to one vote for each share on all matters submitted to a stockholder vote. Holders of our common stock do not have cumulative voting rights. Therefore, holders of a majority of the shares of our common stock voting for the election of directors collectively hold the voting power to elect all of our directors. Holders of our common stock representing a majority of the voting power of our capital stock issued, outstanding and entitled to vote, represented in person or by proxy, are necessary to constitute a quorum at any meeting of stockholders. A vote by the holders of a majority of our outstanding shares is required to effectuate certain fundamental corporate changes such as dissolution, merger or an amendment to our articles of incorporation. However, a two-thirds vote is required for stockholders to amend our bylaws.

Subject to the rights of holders of shares of our preferred stock, if any, the holders of our common stock are entitled to share in all dividends that our board of directors, in its discretion, declares on our common stock from legally available funds. In the event of a liquidation, dissolution or winding up, each outstanding share of our common stock entitles its holder to participate pro rata in all assets that remain after payment of liabilities and after providing for each class of stock, if any, having preference over our common stock. Our common stock has no pre-emptive, subscription or conversion rights and there are no redemption provisions applicable to our common stock.

### **Exchange Listing**

Our common stock is listed on the NASDAQ Global Market under the trading symbol "TNXP."

### **Transfer Agent and Registrar.**

The Transfer Agent and Registrar for our common stock is vStock Transfer, LLC, 18 Lafayette Place, Woodmere, NY 11598.

### **Preferred Stock**

We are authorized to issue up to 5,000,000 shares of preferred stock, par value \$0.001 per share, none of which are currently outstanding. The shares of preferred stock may be issued in series, and each such series shall have such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitations or restrictions thereof, as shall be stated and expressed in the certificate of designation relating to such series, as approved by the board of directors and filed with the Nevada Secretary of State. Pursuant to our articles of incorporation, the board of directors is expressly vested with the authority, without further action by the stockholders, to determine and fix in the resolution or resolutions providing for the issuances of preferred stock the voting powers, designations, preferences and rights, and the qualifications, limitations or restrictions thereof, of each such series to the full extent now or hereafter permitted by the laws of the State of Nevada.

Prior to the issuance of any series of preferred stock, we will further amend our articles of incorporation, as amended, by way of a certificate of designation designating such series and its terms. We will file a copy of the certificate of designation that contains the terms of each such series of preferred stock with the Nevada Secretary of State and the SEC each time we issue a new series of preferred stock. Each certificate of designation will establish the number of shares included in a designated series and fix the designation, powers, privileges, preferences and rights of the shares of each series as well as any applicable qualifications, limitations or restrictions, including, as applicable:

- the designation, stated value and liquidation preference of the series;
- the number of shares within the series;
- the offering price;
- the dividend rate or rates (or method of calculation), the date or dates from which dividends shall accrue, and whether such dividends shall be cumulative or noncumulative and, if cumulative, the dates from which dividends shall commence to cumulate;
- any redemption or sinking fund provisions;
- the amount that shares of the series shall be entitled to receive in the event of our liquidation, dissolution or winding-up;
- the terms and conditions, if any, on which shares of the series shall be convertible or exchangeable for shares of our stock of any other class or classes, or other series of the same class;
- the voting rights, if any, of shares of the series; the status as to reissuance or sale of shares of the series redeemed, purchased or otherwise reacquired, or surrendered to us on conversion or exchange;
- the conditions and restrictions, if any, on the payment of dividends or on the making of other distributions on, or the purchase, redemption or other acquisition by us or any subsidiary, of the common stock or of any other class of our shares ranking junior to the shares of the series as to dividends or upon liquidation;
- the conditions and restrictions, if any, on the creation of indebtedness by us or by any subsidiary, or on the issuance of any additional stock ranking on a parity with or prior to the shares of the series as to dividends or upon liquidation; and
- any additional dividend, liquidation, redemption, sinking or retirement fund and other rights, preferences, privileges, limitations and restrictions of the series.

The issuance of any preferred stock could adversely affect the rights of the holders of common stock and, therefore, reduce the value of the common stock. The ability of our board of directors to issue preferred stock could discourage, delay or prevent a takeover or other corporate action.

On December 7, 2018, we filed with the Nevada Secretary of State a certificate of designation designating 11,984 shares of our preferred stock as Series A Convertible Preferred Stock, in connection with a units offering that included the issuance of all 11,984 designated shares of the Series A Convertible Preferred Stock. Prior to the date of this prospectus, all shares of Series A Convertible Preferred Stock have been converted into shares of our common stock, and pursuant to the terms of the certificate of designation, all such converted shares have resumed the status of authorized but undesignated and unissued shares of our preferred stock and are no longer designated as Series A Convertible Preferred Stock.

#### **Anti-Takeover Effects of Provisions of the Articles of Incorporation and Bylaws**

*Articles of Incorporation and Bylaw Provisions.* Our articles of incorporation and bylaws include a number of provisions that may have the effect of encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. They are intended to enhance long-term value to our stockholders by increasing the likelihood of continued stability in the composition of our board of directors and its policies and may have the effect of discouraging certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are also designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. These provisions include the items described below.

*Filling Vacancies.* Any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board of directors, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

*Meetings of Stockholders.* Our bylaws provide that our president, our board of directors or a duly authorized committee of the board of directors may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

*Advance Notice Requirements.* Our bylaws include advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. The notice must contain certain information specified in the amended and restated bylaws.

*Amendment to Bylaws and Articles of Incorporation.* As required by Nevada law, any amendment of our articles of incorporation must first be approved by a majority of our board of directors and, if required by law or our articles of incorporation, thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority vote of the directors then in office, subject to any limitations set forth in the bylaws, or by the holders of at least sixty-six and two-thirds percent (66 2/3%) of the outstanding voting power of our company, voting together as a single class.

*Blank Check Preferred Stock.* Our articles of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may have the effect of discouraging an attempt to obtain control of us by means of a merger, tender offer, proxy contest, or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the interests of our company or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more offerings or other transactions that might have the effect of diluting the relative voting or other rights of the proposed acquirer or activist stockholder or stockholder group. The issuance of shares of preferred stock with rights preferential to the common stock could have the effect of decreasing the amounts available for distribution to holders of shares of common stock. The issuance may also adversely affect the relative rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring, or preventing a change of control of us.

## PLAN OF DISTRIBUTION

The common stock offered by this prospectus is being offered by the selling stockholder, Lincoln Park. The common stock may be sold or distributed from time to time by the selling stockholder directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of the common stock offered by this prospectus could be effected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents;
- "at the market" into an existing market for the common stock;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

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

Lincoln Park is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act.

Lincoln Park has informed us that it intends to use an unaffiliated broker-dealer to effectuate all sales, if any, of the common stock that it may purchase from us pursuant to the Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such unaffiliated broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Lincoln Park has informed us that each such broker-dealer will receive commissions from Lincoln Park that will not exceed customary brokerage commissions.

Brokers, dealers, underwriters or agents participating in the distribution of the shares as agents may receive compensation in the form of commissions, discounts, or concessions from the selling stockholder and/or purchasers of the common stock for whom the broker-dealers may act as agent. The compensation paid to a particular broker-dealer may be less than or in excess of customary commissions. Neither we nor Lincoln Park can presently estimate the amount of compensation that any agent will receive.

We know of no existing arrangements between Lincoln Park or any other stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the shares offered by this prospectus. At the time a particular offer of shares is made, a prospectus supplement, if required, will be distributed that will set forth the names of any agents, underwriters or dealers and any compensation from the selling stockholder, and any other required information.

We will pay the expenses incident to the registration, offering, and sale of the shares to Lincoln Park. In addition, we are paying Lincoln Park \$100,000 in cash as a commitment fee in addition to the Commitment Shares registered hereunder. We have agreed to indemnify Lincoln Park and certain other persons against certain liabilities in connection with the offering of shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Lincoln Park has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Lincoln Park specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

Lincoln Park has represented to us that at no time prior to the Purchase Agreement has Lincoln Park or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Lincoln Park agreed that during the term of the Purchase Agreement, it, its agents, representatives or affiliates will not enter into or effect, directly or indirectly, any of the foregoing transactions.

We have advised Lincoln Park that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the selling stockholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the earlier of (i) termination of the Purchase Agreement or (ii) the date that all shares offered by this prospectus have been sold by Lincoln Park.

Our common stock is quoted on The Nasdaq Global Market under the symbol "TNXP".

## INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Sections 78.7502 and 78.751 of the Nevada Revised Statutes, or NRS, permit us to indemnify our directors and officers, subject to certain statutory limitations. NRS 78.751(2) further provides that our articles of incorporation or bylaws, or an agreement made by us, may provide that the expenses of our officers and directors incurred in defending a civil or criminal action, suit or proceeding must be paid by us as they are incurred and in advance of the final disposition of an action, suit or proceeding, upon receipt of an undertaking by or on behalf of the director or officer to repay the amount if it is ultimately determined by a court of competent jurisdiction that the director or officer is not entitled to be so indemnified. We are also permitted, pursuant to NRS 78.752, to apply for insurance on behalf of any director, officer, employee or other agent for liability arising out of his actions, whether or not the NRS would permit indemnification.

Our articles of incorporation provide that our directors or officers shall not be personally liable to us or our stockholders for monetary damages for breach of such director's or officer's fiduciary duty, except for liability (i) for any breach of the duty of loyalty to our company or our stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, or (iii) for any transaction from which the officer or director derived any improper personal benefit. Our articles of incorporation and our amended and restated bylaws provide for the indemnification of any of our directors and officers 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, administrative or investigative, by reason of the fact that such person is or was a director or officer of the our company , against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, subject to certain express limitations and conditions.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for 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.

## LEGAL MATTERS

The validity of the shares of our common stock offered in this prospectus will be passed upon for us by Brownstein Hyatt Farber Schreck, LLP, Las Vegas, Nevada.

## EXPERTS

The consolidated balance sheets of Tonix Pharmaceuticals Holding Corp. and subsidiaries as of December 31, 2018 and 2017 and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the years then ended have been audited by EisnerAmper LLP, independent registered public accounting firm, as stated in their report which is incorporated herein by reference, which report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern. Such financial statements have been incorporated herein by reference in reliance on the report of such firm given upon their authority as experts in accounting and auditing.



## DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our directors and officers are indemnified to the fullest extent permitted under Nevada law. We also maintain insurance which protects our officers and directors against any liabilities incurred in connection with their service in such a capacity.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing, 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 us of expenses incurred or paid by a director, officer or controlling person of ours 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 it 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

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the common stock offered by this prospectus. This prospectus, which is part of the registration statement, omits certain information, exhibits, schedules and undertakings set forth in the registration statement. For further information pertaining to us and our common stock, reference is made to our SEC filings and the registration statement and the exhibits and schedules to the registration statement. Statements contained in this 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.

You may read and copy all or any portion of the registration statement without charge at the office of the SEC at the Public Reference Room at Station Place, 100 F Street, N.E., Washington, D.C. 20549. Copies of the registration statement may be obtained from the SEC at prescribed rates from the Public Reference Section of the SEC at such address. In addition, registration statements and certain other filings made with the SEC electronically are publicly available through the SEC's web site at <http://www.sec.gov>. The registration statement, including all exhibits and amendments to the registration statement, has been filed electronically with the SEC.

We are subject to the information and periodic reporting requirements of the Exchange Act, and we file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above. We maintain a website at <http://www.tonixpharma.com>. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus, and any references to this website or any other website are inactive textual references only. You may also request a copy of these filings, at no cost, by writing us at 509 Madison Avenue, Suite 1608, New York, New York 10022 or telephoning us at (212) 980-9155.

## INCORPORATION OF DOCUMENTS BY REFERENCE

This prospectus is part of the registration statement but the registration statement includes and incorporates by reference additional information and exhibits. The Securities and Exchange Commission permits us to “incorporate by reference” the information contained in documents we file with the Securities and Exchange Commission, which means that we can disclose important information to you by referring you to those documents rather than by including them in this prospectus. Information that is incorporated by reference is considered to be part of this prospectus and you should read it with the same care that you read this prospectus. Information that we file later with the Securities and Exchange Commission will automatically update and supersede the information that is either contained, or incorporated by reference, in this prospectus, and will be considered to be a part of this prospectus from the date those documents are filed. We have filed with the Securities and Exchange Commission, and incorporate by reference in this prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2018, as filed with the Commission on March 18, 2019, as amended on Form 10-K/A on March 18, 2019;
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2019, filed with the SEC on May 13, 2019, and June 30, 2019, filed with the SEC on August 12, 2019;
- Definitive Proxy Statement on Schedule 14A, filed on March 18, 2019;
- Current Reports on Form 8-K, filed on February 20, 2019, March 1, 2019, March 4, 2019, March 5, 2019, March 11, 2019, March 18, 2019, April 4, 2019, April 19, 2019, April 22, 2019, April 23, 2019, May 8, 2019, May 13, 2019, May 17, 2019, May 23, 2019, May 30, 2019, June 3, 2019, June 13, 2019, July 16, 2019, July 25, 2019, August 2, 2019, August 12, 2019, August 20, 2019, August 21, 2019, August 21, 2019, and August 23, 2019 (other than any portions thereof deemed furnished and not filed); and
- the description of our common stock contained in the Registrant’s registration statement on Form 8-A filed with the SEC on July 23, 2013.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, prior to the termination of the offering (excluding any information furnished rather than filed) shall be deemed to be incorporated by reference into this prospectus.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have “furnished” to the SEC pursuant to the Securities Exchange Act of 1934, as amended shall be incorporated by reference into this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to:

Tonix Pharmaceuticals Holding Corp.  
509 Madison Avenue, Suite 1608  
New York, New York 10022  
Attention: Investor Relations  
Telephone (212) 980-9155

You also may access these filings on our website at <http://www.tonixpharma.com>. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

**Tonix Pharmaceuticals Holding Corp.**



**PROSPECTUS**

**5,000,000 shares of  
Common Stock, par value \$0.001 per share**

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**PROSPECTUS**

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**,2019**

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**PART II**

**INFORMATION NOT REQUIRED IN PROSPECTUS**

**ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.**

The following table sets forth the estimated costs and expenses to be incurred in connection with the issuance and distribution of the securities registered under this Registration Statement. All amounts are estimates except the SEC registration fee.

<b>Item</b>	<b>Amount to be paid</b>
SEC registration fees	\$ 279
Printing and engraving expenses	2,500
Legal fees and expenses	40,000
Fees and expenses	45,000
Accounting fees and expenses	20,000
Transfer agent fees and expenses	2,500
Miscellaneous expenses	4,721
Total	\$ 115,000

**ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS.**

Nevada Revised Statutes (“NRS”) 78.7502(1) provides that a corporation 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, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation 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 the person in connection with the action, suit or proceeding if the person (i) is not liable pursuant to NRS 78.138 or (ii) acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the conduct was unlawful. NRS 78.7502(2) provides that a corporation 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 or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses, including amounts paid in settlement and attorneys’ fees actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit if the person (a) is not liable pursuant to NRS 78.138 or (ii) acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation. To the extent that a director, officer, employee or agent of a corporation has been successful on the merits or otherwise in defense of any such action, suit or proceeding, or in defense of any claim, issue or matter therein, the corporation shall indemnify him or her against expenses, including attorneys’ fees, actually and reasonably incurred by him or her in connection with the defense. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, does not, of itself, create a presumption that the person is liable pursuant to NRS 78.138 or did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, or that, with respect to any criminal action or proceeding, he or she had reasonable cause to believe that the conduct was unlawful. Indemnification may not be made for any claim, issue or matter as to which such a person has been adjudged by a court of competent jurisdiction, after exhaustion of all appeals therefrom, to be liable to the corporation or for amounts paid in settlement to the corporation, unless and only to the extent that the court in which the action or suit was brought or other court of competent jurisdiction determines upon application that in view of all the circumstances of the case, the person is fairly and reasonably entitled to indemnity for such expenses as the court deems proper.

NRS 78.751(1) provides that any discretionary indemnification pursuant to NRS 78.7502 (unless ordered by a court or advanced pursuant to NRS 78.751(2)), may be made by the corporation only as authorized in the specific case upon a determination that indemnification of the director, officer, employee or agent is proper in the circumstances. The determination must be made (i) by the stockholders; (ii) by the board of directors by majority vote of a quorum consisting of directors who were not parties to the action, suit or proceeding; (iii) if a majority vote of a quorum consisting of directors who were not parties to the action, suit or proceeding so orders, by independent legal counsel in a written opinion; or (iv) if a quorum consisting of directors who were not parties to the action, suit or proceeding cannot be obtained, by independent legal counsel in a written opinion. NRS 78.751(2) provides that the corporation's articles of incorporation or bylaws, or an agreement made by the corporation, may provide that the expenses of officers and directors incurred in defending a civil or criminal action, suit or proceeding must be paid by the corporation as they are incurred and in advance of the final disposition of the action, suit or proceeding, upon receipt of an undertaking by or on behalf of the director or officer to repay the amount if it is ultimately determined by a court of competent jurisdiction that the director or officer is not entitled to be indemnified by the corporation.

Our articles of incorporation provide that our directors or officers shall not be personally liable to us or our stockholders for monetary damages for breach of such director's or officer's fiduciary duty, except for liability (i) for any breach of the duty of loyalty to our company or our stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, or (iii) for any transaction from which the officer or director derived any improper personal benefit. Our articles of incorporation and our amended and restated bylaws provide for the indemnification of any of our directors and officers 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, administrative or investigative, by reason of the fact that such person is or was a director or officer of the our company, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, subject to certain express limitations and conditions. We believe that these provisions in our articles of incorporation bylaws, as amended, are necessary to attract and retain qualified persons as directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

#### **ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES.**

In the three years preceding the filing of this registration statement, the Registrant has issued the following securities that were not registered under the Securities Act:

On April 10, 2017, we issued 225 shares of common stock to one investor upon the exercise of warrants issued October 26, 2016 for proceeds of \$14,175.

On May 31, 2017, we issued 75 shares of common stock to a non-employee director in settlement for restricted stock units that vested in May 2017.

On June 1, 2017, we issued 75 shares of common stock to a non-employee director in settlement for restricted stock units that vested in May 2017.

On June 5, 2017, we issued 113 shares of common stock to a non-employee director in settlement for restricted stock units that vested in May 2017.

On June 6, 2017, we issued 75 shares of common stock to a non-employee director in settlement for restricted stock units that vested in May 2017.

On June 20, 2017, we issued 75 shares of common stock to a non-employee director in settlement for restricted stock units that vested in May 2017.

On July 11, 2017, we issued 75 shares of common stock to a non-employee director in settlement for restricted stock units that vested in May 2017.

On September 28, 2017, we issued 7,304 shares of common stock, at a price per share of \$41.10, to Lincoln Park Capital Fund, LLC pursuant to that certain Purchase Agreement dated September 28, 2017.

On October 18, 2018, we issued 35,000 commitment shares to Lincoln Park as a fee for its commitment to purchase shares of our common stock pursuant to that certain Purchase Agreement dated October 18, 2018.

On August 20, 2019, we issued 355,290 commitment shares to Lincoln Park as a fee for its commitment to purchase shares of our common stock pursuant to that certain Purchase Agreement dated August 20, 2019.

Unless otherwise noted, all of the transactions described in Item 15 were exempt from registration under the Securities Act pursuant to Section 4(a)(2) of the Securities Act in that such sales did not involve a public offering, under Rule 701 promulgated under the Securities Act, in that they were offered and sold either pursuant to written compensatory plans or pursuant to a written contract relating to compensation, as provided by Rule 701, or under Rule 506 of Regulation D promulgated under the Securities Act.

#### **ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.**

See the Exhibit Index set forth on page II-7 to this Registration Statement, which is incorporated herein by reference.

#### **ITEM 17. UNDERTAKINGS.**

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.



(6) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, on August 23, 2019.

### TONIX PHARMACEUTICALS HOLDING CORP.

Date: August 23, 2019

By: /s/ SETH LEDERMAN  
Seth Lederman  
Chief Executive Officer (Principal Executive Officer)

Date: August 23, 2019

By: /s/ BRADLEY SAENGER  
Bradley Saenger  
Chief Financial Officer (Principal Accounting Officer)

## POWER OF ATTORNEY

### KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned officers and directors of Tonix Pharmaceuticals Holding Corp., a Nevada corporation, do hereby constitute and appoint Seth Lederman and Bradley Saenger and each of them his or her true and lawful attorney-in-fact and agent with full power and authority to do any and all acts and things and to execute any and all instruments which said attorney and agent, determine may be necessary or advisable or required to enable said corporation to comply with the Securities Act of 1933, as amended, and any rules or regulations or requirements of the Securities and Exchange Commission in connection with this Registration Statement. Without limiting the generality of the foregoing power and authority, the powers granted include the power and authority to sign the names of the undersigned officers and directors in the capacities indicated below to this Registration Statement, and to any and all instruments or documents filed as part of or in conjunction with this Registration Statement or amendments or supplements thereof, including post-effective amendments, to this Registration Statement or any registration statement relating to this offering to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, and each of the undersigned hereby ratifies and confirms that said attorney and agent, shall do or cause to be done by virtue thereof. This Power of Attorney may be signed in several counterparts.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney. In accordance with the requirements of the Securities Act of 1933, as amended, this registration statement was signed by the following persons in the capacities and on the dates stated:

Signature	Title	Date
<u>/s/ SETH LEDERMAN</u> Seth Lederman	Chief Executive Officer (Principal Executive Officer) and Director	August 23, 2019
<u>/s/ BRADLEY SAENGER</u> Bradley Saenger	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	August 23, 2019
<u>/s/ MARGARET SMITH BELL</u> Margaret Smith Bell	Director	August 23, 2019
<u>/s/ DAVID GRANGE</u> David Grange	Director	August 23, 2019
<u>/s/ DANIEL GOODMAN</u> Daniel Goodman	Director	August 23, 2019
<u>/s/ ADEOYE OLUKOTUN</u> Adeoye Olukotun	Director	August 23, 2019
<u>/s/ JOHN RHODES</u> John Rhodes	Director	August 23, 2019
<u>/s/ JAMES TRECO</u> Jamie Treco	Director	August 23, 2019

## EXHIBIT INDEX

<b>Exhibit No.</b>	<b>Description</b>
<a href="#">3.01</a>	Articles of Incorporation, filed as an exhibit to the Registration Statement on Form S-1, filed with the Securities and Exchange Commission (the "Commission") on April 9, 2008 and incorporated herein by reference.
<a href="#">3.02</a>	Articles of Merger between Tamandare Explorations Inc. and Tonix Pharmaceuticals Holding Corp., effective October 11, 2011, filed as an exhibit to the Current Report on Form 8-K, filed with the Commission on October 17, 2011 and incorporated herein by reference.
<a href="#">3.03</a>	Third Amended and Restated Bylaws, filed as an exhibit to the Current Report on Form 8-K, filed with the Commission on June 3, 2016 and incorporated herein by reference.
<a href="#">3.04</a>	Certificate of Change of Tonix Pharmaceuticals Holding Corp., dated March 13, 2017 and effective March 17, 2017, filed as an exhibit to the Current Report on Form 8-K, filed with the Commission on March 16, 2017 and incorporated herein by reference.
<a href="#">3.05</a>	Certificate of Amendment to Articles of Incorporation, effective June 16, 2017, filed as an exhibit to the Current report on Form 8-K, filed with the Commission on June 16, 2017 and incorporated herein by reference.
<a href="#">3.06</a>	Specimen Common Stock Certificate, filed as an exhibit to the Current Report on Form 8-K, filed with the Commission on May 24, 2018 and incorporated herein by reference.
<a href="#">3.07</a>	Certificate of Amendment to Tonix Pharmaceuticals Holding Corp.'s Articles of Incorporation, as amended, filed with the Secretary of State of the State of Nevada on May 3, 2019, filed as an exhibit to the Registration Statement on Form S-8, filed with the Commission on June 13, 2019 and incorporated herein by reference.
<a href="#">4.01</a>	Specimen Common Stock Certificate of the Registrant, filed as an exhibit to the Current Report on Form 8-K, filed with the Commission on May 24, 2018 and incorporated herein by reference.
<a href="#">5.01</a>	<a href="#">Opinion of Brownstein Hyatt Farber Schreck, LLP.</a>
<a href="#">10.01</a>	Lease Agreement, dated as of September 28, 2010, by and between 509 Madison Avenue Associates, L.P. and Tonix Pharmaceuticals, Inc., filed as an exhibit to the amended Current Report on Form 8-K/A, filed with the Commission on February 3, 2012 and incorporated herein by reference.
<a href="#">10.02</a>	Tonix Pharmaceuticals Holding Corp. 2012 Amended and Restated Incentive Stock Option Plan, incorporated herein by reference to Appendix B to our Definitive Proxy Statement on Schedule 14A (File No. 000-54879), filed with the Commission on April 3, 2013.
<a href="#">10.03</a>	Employment Agreement, between Tonix Pharmaceuticals Holding Corp. and Seth Lederman, dated February 11, 2014, filed as an exhibit to the Current Report on Form 8-K filed with the Commission on February 14, 2014 and incorporated herein by reference.*
<a href="#">10.04</a>	Tonix Pharmaceuticals Holding Corp. 2014 Stock Incentive Plan, incorporated herein by reference to Annex A to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on May 2, 2014.
<a href="#">10.05</a>	Lease Amendment and Expansion Agreement, dated February 11, 2014, by and between 509 Madison Avenue Associates, L.P. and Tonix Pharmaceuticals, Inc., filed as an exhibit to the Annual Report on Form 10-K filed with the Commission on February 27, 2015 and incorporated herein by reference.
<a href="#">10.06</a>	Employment Agreement, between Tonix Pharmaceuticals Holding Corp. and Gregory Sullivan, dated June 3, 2014, filed as an exhibit to the Current Report on Form 8-K filed with the Commission on June 3, 2014 and incorporated herein by reference.*

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- [10.07](#) Tonix Pharmaceuticals Holding Corp. 2016 Stock Incentive Plan, incorporated herein by reference to Annex A to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on March 25, 2016.
- [10.08](#) Tonix Pharmaceuticals Holding Corp. 2017 Stock Incentive Plan, incorporated herein by reference to Appendix A to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on May 2, 2017.
- [10.09](#) Tonix Pharmaceuticals Holding Corp. 2018 Equity Incentive Plan, incorporated herein by reference to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on April 19, 2018.
- [10.10](#) Tonix Pharmaceuticals Holding Corp. 2018 Employee Stock Purchase Plan, incorporated herein by reference to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on April 19, 2018.
- [10.11](#) Sales Agreement, dated May 1, 2018, by and between Tonix Pharmaceuticals Holding Corp. and Cowen and Company, LLC, filed with the Commission on May 24, 2018 and incorporated herein by reference.
- [10.12](#) Registration Rights Agreement, dated October 18, 2018, between Tonix Pharmaceuticals Holding Corp. and Lincoln Park Capital Fund, LLC, filed as an exhibit to the Current Report on Form 8-K filed with the Commission on October 24, 2018 and incorporated herein by reference.
- [10.13](#) Purchase Agreement, dated October 18, 2018, between Tonix Pharmaceuticals Holding Corp. and Lincoln Park Capital Fund, LLC, filed as an exhibit to the Current Report on Form 8-K filed with the Commission on October 24, 2018 and incorporated herein by reference.
- 10.14 Tonix Pharmaceuticals Holding Corp. 2019 Stock Incentive Plan, incorporated herein by reference to Appendix A to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on April 19, 2019.
- 10.15 Tonix Pharmaceuticals Holding Corp. 2019 Employee Stock Purchase Plan, incorporated herein by reference to Appendix A to our Definitive Proxy Statement on Schedule 14A (File No. 001-36019), filed with the Commission on April 19, 2019.
- [10.16](#) License Agreement, dated May 20, 2019, between Tonix Pharmaceuticals Holding Corp. and The Trustees of Columbia University in the City of New York, filed as an exhibit to the Quarterly Report on Form 10-Q filed with the Commission on August 12, 2019 and incorporated herein by reference.
- 10.17 Registration Rights Agreement, dated August 20, 2019, between Tonix Pharmaceuticals Holding Corp. and Lincoln Park Capital Fund, LLC, filed as an exhibit to the Current Report on Form 8-K filed with the Commission on August 23, 2019 and incorporated herein by reference.
- 10.18 Purchase Agreement, dated August 20, 2019, between Tonix Pharmaceuticals Holding Corp. and Lincoln Park Capital Fund, LLC, filed as an exhibit to the Current Report on Form 8-K filed with the Commission on August 23, 2019 and incorporated herein by reference.
- [23.01](#) Consent of Independent Registered Public Accounting Firm, filed herewith.
- [23.02](#) Consent of Brownstein Hyatt Farber Schreck, LLP (included in Exhibit 5.01).
- \* Indicates a management contract or compensatory plan or arrangement.
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August 23, 2019

Tonix Pharmaceuticals Holding Corp.  
509 Madison Avenue, Suite 1608  
New York, New York 10022

Ladies and Gentlemen:

We have acted as local Nevada counsel to Tonix Pharmaceuticals Holding Corp., a Nevada corporation (the "Company"), in connection with the filing by the Company of a Registration Statement on Form S-1 (the "Registration Statement") and the Prospectus contained therein (the "Prospectus"), with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Act"), relating to the registration for sale by the selling stockholder named in the Prospectus (the "Selling Stockholder") of up to 5,000,000 shares (the "Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), which Shares have been or may be issued pursuant to that certain Purchase Agreement, dated as of August 20, 2019, by and between the Company and the Selling Stockholder (the "Purchase Agreement"). This opinion letter is being delivered at your request pursuant to the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In our capacity as such counsel, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization, issuance and sale of the Shares as contemplated by, and as described in, the Registration Statement and the Prospectus. For purposes of this opinion letter, and except to the extent set forth in the opinion below, we have assumed that all such proceedings have been or will be timely completed in the manner presently proposed in the Registration Statement and the Prospectus.

For purposes of issuing the opinion hereinafter expressed, we have made such legal and factual examinations and inquiries, including an examination of originals or copies certified or otherwise identified to our satisfaction as being true copies of (i) the Registration Statement, including the Prospectus, (ii) the Company's articles of incorporation and bylaws, each as amended to date, (iii) the Purchase Agreement and (iv) such other agreements, instruments, corporate records and other documents as we have deemed necessary or appropriate. We have also obtained from officers, representatives and agents of the Company and from public officials, and have relied upon, such certificates, representations, assurances and public filings as we have deemed necessary and appropriate for the purpose of issuing this opinion letter.

Without limiting the generality of the foregoing, we have, with your permission, assumed without independent verification that (i) each natural person executing any of the documents we reviewed has sufficient legal capacity to do so; (ii) all documents submitted to us as originals are authentic, the signatures on all documents we reviewed are genuine, and all documents submitted to us as certified, conformed, photostatic, electronic or facsimile copies conform to the original document; (iii) all corporate records made available to us by the Company, and all public records we have reviewed, are accurate and complete; and (iv) after any issuance of the Shares, the total number of issued and outstanding shares of Common Stock, together with the total number of shares of Common Stock then reserved for issuance or obligated to be issued by the Company pursuant to any agreement or arrangement or otherwise, will not exceed the total number of shares of Common Stock then authorized under the Company's articles of incorporation.

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Brownstein Hyatt Farber Schreck, LLP

We are qualified to practice law in the State of Nevada. The opinion set forth herein is expressly limited to and based exclusively on the general corporate laws of the State of Nevada, and we do not purport to be experts on, or to express any opinion with respect to the applicability or effect of, the laws of any other jurisdiction. We express no opinion concerning, and we assume no responsibility as to laws or judicial decisions related to any federal laws, rules or regulations, including, without limitation, any federal securities laws, rules or regulations, or any state securities or "blue sky" laws, rules or regulations.

Based on the foregoing, and in reliance thereon, and having regard to legal considerations and other information that we deem relevant, we are of the opinion that the Shares have been duly authorized by the Company and if, when and to the extent the Shares are issued and sold in exchange for payment in full to the Company of all consideration required therefor, each in the manner contemplated by the Purchase Agreement, the Registration Statement and the Prospectus, and in accordance with the proceedings described therein, such Shares will be validly issued, fully paid and nonassessable.

The opinion expressed herein is based upon the applicable laws of the State of Nevada and the facts in existence on the date of this opinion letter. In delivering this opinion letter to you, we disclaim any obligation to update or supplement the opinion set forth herein or to apprise you of any changes in any laws or facts after such time as the Registration Statement is declared effective. No opinion is offered or implied as to any matter, and no inference may be drawn, beyond the strict scope of the specific issues expressly addressed by the opinion set forth herein.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and to the reference to our firm in the Prospectus under the heading "Legal Matters". In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,  
/s/ Brownstein Hyatt Farber Schreck, LLP

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Registration Statement of Tonix Pharmaceuticals Holding Corp. (the "Company") on Form S-1 to be filed on or about August 23, 2019 of our report dated March 18, 2019, on our audits of the consolidated financial statements as of December 31, 2018 and 2017 and for each of the years then ended, which report was included in the Annual Report on Form 10-K filed March 18, 2019. Our report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern. We also consent to the reference to our firm under the caption "Experts" in this Registration Statement.

/s/ EisnerAmper LLP

EISNERAMPER LLP  
Iselin, New Jersey  
August 23, 2019