

PROSPECTUS

9,986,283 Shares
PLX PHARMA INC.
Common Stock (\$0.001 par value)

This prospectus relates to the resale of up to 9,986,283 shares of PLx Pharma Inc. (the “Company,” “we,” “our” or “us”) common stock, which includes 5,230,910 shares of our common stock issuable upon the exercise of outstanding warrants, which are held by the selling stockholders named in this prospectus. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholders. We will, however, receive the net proceeds of any warrants exercised for cash.

The selling stockholders identified in this prospectus, or their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part, may offer the shares from time to time through public or private transactions at fixed prices, at prevailing market prices, at varying prices determined at the time of sale, or at privately negotiated prices. More information about how the selling stockholders may sell their shares of common stock is provided in the section titled “Plan of Distribution” beginning on page 11 of this prospectus. We have agreed to pay certain expenses incurred in connection with the registration of these shares, however, we will not be paying any underwriting discounts or commissions in connection with any offering of shares of common stock under this prospectus.

Our common stock is traded on the Nasdaq Capital Market (“Nasdaq”) under the symbol “PLXP.” On January 6, 2020, the last reported sale price of our common stock on Nasdaq was \$5.76 per share. As of December 21, 2020, there were 13,911,633 shares of common stock outstanding.

Investing in our common stock involves a high degree of risk. You should carefully review the risks and uncertainties we have described under the section titled “Risk Factors” on page 3 of this prospectus, and under similar sections in the other documents that are incorporated by reference into this prospectus, including those filed after the date hereof.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is January 6, 2021.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (“SEC”), using a “shelf” registration or continuous offering process. Under this shelf registration process, the selling stockholders may from time to time sell the shares of common stock described in this prospectus in one or more offerings.

All references to “Company,” “we,” “our” or “us” refer solely to PLx Pharma Inc. and not to the persons who manage us or sit on our Board of Directors or are our stockholders. Reference to “selling stockholders” refers to those stockholders listed herein in the section titled “Selling Stockholders” beginning on page 3 of this prospectus, who may sell shares from time to time as described in this prospectus. All trade names used in this prospectus are either our registered trademarks or trademarks of their respective holders.

No person has been authorized to give any information or to make any representations other than those contained in this prospectus in connection with the offering made hereby, and if given or made, such information or representations must not be relied upon as having been authorized by the Company, any selling stockholder or by any other person. Neither the delivery of this prospectus nor any sale made hereunder shall, under any circumstances, create any implication that information herein is correct as of any time subsequent to the date hereof. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any security other than the securities covered by this prospectus, nor does it constitute an offer to or solicitation of any person in any jurisdiction in which such offer or solicitation may not lawfully be made.

This document may only be used where it is legal to sell these securities. The information contained in this prospectus (and in any supplement or amendment to this prospectus) is accurate only as of the date on the front of the document, and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since those dates.

We urge you to read carefully this prospectus (as supplemented and amended), together with the information incorporated herein by reference as described in the section titled “Incorporation of Certain Information by Reference” before deciding whether to invest in any of the common stock being offered.

This prospectus incorporates by reference market data, industry statistics and other data that have been obtained from, or compiled from, information made available by third parties. We have not independently verified their data.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus. This summary may not contain all the information that you should consider before determining whether to invest in our securities. You should read the entire prospectus carefully, including the information included in the “Risk Factors” section, as well as our consolidated financial statements, notes to the consolidated financial statements and the other information incorporated by reference into this prospectus, as well as the exhibits to the registration statement of which this prospectus is a part, before making an investment decision.

The Company

We are a late-stage specialty pharmaceutical company focused on our clinically-validated and patent-protected PLxGuard drug delivery platform to provide more effective and safer products. Our PLxGuard drug delivery platform works by targeting the release of active pharmaceutical ingredients to various portions of the gastrointestinal (“GI”) tract. We believe this has the potential to improve the absorption of many drugs currently on the market or in development, and reduce the risk of stomach erosions and ulcers associated with aspirin and ibuprofen, and potentially other drugs.

The U.S. Food and Drug Administration (the “FDA”) approved our lead product, VAZALORE 325 mg, which is a novel formulation of aspirin using the PLxGuard drug delivery platform intended to provide faster, reliable and more predictable platelet inhibition for the treatment of vascular disease as compared to the current standard of care, enteric-coated aspirin, and significantly reduce the risk of stomach erosions and ulcers as compared with immediate-release aspirin common in an acute setting. VAZALORE 325 mg (formerly PL2200 Aspirin 325 mg and Aspertec 325 mg) was originally approved under the drug name aspirin, and the proprietary name ‘VAZALORE’ was granted subsequent to the FDA approval. A companion 81 mg dose of the same novel formulation, VAZALORE 81 mg, is the subject of a supplemental New Drug Application (“sNDA”), leveraging the already approved status of VAZALORE 325 mg. SNDA’s for VAZALORE 325 mg and VAZALORE 81 mg doses, submitted in October 2020 to the FDA, are currently under regulatory review.

Our commercialization strategy will target both the over-the-counter (“OTC”) and prescription markets, taking advantage of the existing OTC distribution channels for aspirin while leveraging the FDA approval of VAZALORE 325 mg and anticipated approval for VAZALORE 81 mg for use when recommended by physicians for treatment of vascular disease. Given our clinical demonstration of faster, reliable and more complete platelet inhibition (as compared with enteric-coated aspirin) in diabetic patients who are candidates for aspirin therapy (after three days of treatment) and fewer stomach erosions and ulcers (as compared with immediate-release aspirin) common in an acute setting. We intend to market VAZALORE to the healthcare professional and the consumer through several marketing channels including a physician-directed sales force. Our product pipeline also includes other oral nonsteroidal anti-inflammatory drugs using the PLxGuard delivery system that may be developed, including PL1200 Ibuprofen 200 mg, for pain and inflammation currently in clinical stage.

We were originally incorporated in Texas in 2002 and re-incorporated in Delaware in 2015. On April 19, 2017, Dipexium Acquisition Corp., a Delaware corporation (“Merger Sub”) and a wholly-owned subsidiary of Dipexium Pharmaceuticals, Inc., a Delaware corporation (“Dipexium”), merged with and into PLx Pharma Inc., a privately-held Delaware corporation (“Old PLx”), pursuant to the terms of that certain Agreement and Plan of Merger and Reorganization dated as of December 22, 2016 by and among Dipexium, Merger Sub and Old PLx (the “Merger”). As part of the Merger, Dipexium was re-named PLx Pharma Inc. and Old PLx was re-named PLx Opco Inc. Following completion of the Merger, Old PLx became a wholly-owned subsidiary of the Company. Since the completion of the Merger, the business we have conducted has been primarily the business of Old PLx. The combined company, renamed as PLx Pharma Inc., together with its subsidiary PLx Opco Inc., is referred to herein as the “Company.”

The Company’s headquarters is located at 9 Fishers Lane, Ste. E, Sparta, New Jersey 07871. Our telephone number is (973) 409-6541.

The Offering

The selling stockholders named in this prospectus may offer and sell up to 9,986,283 shares of our common stock, which includes 5,230,910 shares of our common stock issuable upon the exercise of outstanding warrants. The shares issuable upon exercise of the warrants will become eligible for sale by the selling stockholders under this prospectus only as the warrants are exercised. As of December 21, 2020, there were 13,911,633 shares of common stock outstanding. Our common stock is currently listed on Nasdaq under the symbol “PLXP.” Shares of common stock that may be offered under this prospectus, when issued and paid for in the case of shares issuable upon exercise of the outstanding warrants, will be fully paid and non-assessable. We will not receive any of the proceeds of sales by the selling stockholders of any of the common stock covered by this prospectus. We will, however, receive the net proceeds of any warrants exercised for cash. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholders, we are referring to the shares and the shares underlying the warrants issued to the selling stockholders pursuant to the securities purchase agreement we entered into with the selling stockholders on November 16, 2020, and when we refer to the selling stockholders in this prospectus, we are referring to the purchasers under the securities purchase agreement and, as applicable, their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part.

RISK FACTORS

Investing in our securities involves significant risks. Before deciding whether to invest in our securities, you should carefully consider the risks, uncertainties and assumptions described in this prospectus and any accompanying prospectus supplement, including the risk factors set forth in our filings with the SEC that are incorporated by reference herein and therein, including the risk factors in our most recent Annual Report on Form 10-K, as amended, as revised or supplemented by our Quarterly Reports on Form 10-Q, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. If any of these risks actually occurs, our business, business prospects, financial condition or results of operations could be seriously harmed. Please also read carefully the section below titled “Forward-Looking Statements.”

FORWARD-LOOKING STATEMENTS

This prospectus and certain documents incorporated by reference in this prospectus contain forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “intend,” “might,” “will,” “should,” “could,” “would,” “expect,” “believe,” “estimate,” “predict,” “potential,” or the negative of these terms, and similar expressions. These statements reflect our current views with respect to future events. These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements, many of which are discussed in greater detail in the section titled “Risk Factors” in this prospectus.

USE OF PROCEEDS

The selling stockholders will receive all of the net proceeds from sales of the common stock pursuant to this prospectus. However, in the case of warrants issued to the selling stockholders pursuant to the securities purchase agreement dated November 16, 2020, upon any exercise of these warrants for cash, the selling stockholders would pay us an exercise price of \$4.31 per share of common stock, subject to any adjustment pursuant to the terms of the warrants. We expect to use any such warrant exercise proceeds primarily for working capital and general corporate purposes. These warrants are also exercisable on a cashless basis by net exercise under certain conditions contained therein. If any of these warrants are exercised on a cashless basis, we would not receive any cash payment from the applicable selling stockholder upon any such cashless exercise of a warrant.

SELLING STOCKHOLDERS

On November 16, 2020, we entered into a securities purchase agreement with the selling stockholders pursuant to which we issued and sold in a private placement an aggregate of 4,755,373 immediately separable units, comprised of an aggregate of 4,755,373 shares of our common stock and warrants to purchase up to 5,230,910 additional shares of common stock, which warrants we refer to in this prospectus as the Warrants, for an aggregate purchase price of approximately \$18.0 million. Pursuant to the securities purchase agreement, we agreed to file the registration statement of which this prospectus is a part to cover the resale of the shares of our common stock and the shares underlying the Warrants, and to keep such registration statement effective with respect to each selling stockholder until the earlier to occur of (i) the date on which all of the shares of our common stock issued to the selling stockholders and the Warrants issued or issuable to the selling stockholders upon exercise of the Warrants have been disposed of in accordance with such registration statement, the shares offered by the selling stockholders have been disposed of pursuant to Rule 144 of the Securities Act or the shares offered by the selling stockholders may be resold pursuant to Rule 144 without restriction or limitation (including without the requirement to be in compliance with Rule 144(c)(1)) or another similar exemption under the Securities Act or (ii) November 18, 2022. The Warrants, which have a five-year term from the date of issuance, have an initial exercise price of \$4.31 per share. The exercise price and number of shares of common stock issuable upon exercise of the Warrants may be adjusted in certain circumstances, including stock splits, stock dividends, reclassifications and the like. The shares issuable upon exercise of the Warrants will become eligible for sale by the selling stockholders under this prospectus only as the Warrants are exercised. We cannot predict when or whether any of the selling stockholders will exercise their Warrants.

We are registering the resale of the above-referenced shares to permit each of the selling stockholders identified below, or their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part, to resell or otherwise dispose of the shares in the manner contemplated in the section titled “Plan of Distribution” in this prospectus (as may be supplemented and amended). This prospectus covers the sale or other disposition by the selling stockholders of up to the total number of shares of common stock issued to the selling stockholders pursuant to the securities purchase agreement, plus the total number of shares of common stock issuable upon exercise of the Warrants issued to the selling stockholders. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholders, we are referring to the shares of our common stock and the shares underlying the Warrants issued to the selling stockholders pursuant to the securities purchase agreement, and when we refer to the selling stockholders in this prospectus, we are referring to the purchasers under the securities purchase agreement and, as applicable, their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part.

The selling stockholders may sell some, all or none of their shares. We do not know how long the selling stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale or other disposition of any of the shares. The shares of our common stock covered hereby may be offered from time to time by the selling stockholders.

The following table sets forth the name of each selling stockholder, the number and percentage of our common stock beneficially owned by the selling stockholders as of December 21, 2020, the number of shares of our common stock that may be offered under this prospectus, and the number and percentage of our common stock beneficially owned by the selling stockholders assuming all of the shares of our common stock registered hereunder are sold. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to our common stock. Generally, a person “beneficially owns” shares of our common stock if the person has or shares with others the right to vote those shares or to dispose of them, or if the person has the right to acquire voting or disposition rights within sixty (60) days. The number of shares of our common stock in the column “Number of Shares Offered” represents all of the shares of our common stock that a selling stockholder may offer and sell from time to time under this prospectus.

All information contained in the table below and the footnotes thereto is based upon information provided to us by the selling stockholders. The information in the table below and the footnotes thereto regarding shares of common stock to be beneficially owned after the offering assumes that all of the selling stockholders have exercised the Warrants in full pursuant to cash exercises and further assumes the sale of all shares being offered by the selling stockholders under this prospectus. The percentage of shares owned prior to and after the offering is based on 13,911,633 shares of common stock outstanding as of December 21, 2020 and, with respect to the percentage of shares owned after the offering, on the assumption that all of the selling stockholders have exercised the Warrants in full pursuant to cash exercises and therefore that all shares of common stock issuable upon exercise of the Warrants were outstanding as of that date. Unless otherwise indicated in the footnotes to this table, we believe that each of the selling stockholders named in this table has sole voting and investment power with respect to the shares of common stock indicated as beneficially owned. Except as otherwise indicated below, based on the information provided to us by the selling stockholders, none of the selling stockholders is a broker-dealer or an affiliate of a broker-dealer.

Name	Prior to Offering		Number of Shares Offered(2)	After Offering	
	Number of Shares Beneficially Owned(1)	Percentage of Shares Beneficially Owned(1)		Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
White Rock Capital Partners, LP	3,209,007(3)	9.99%	2,772,643	436,364	2.23%
Level One Partners, LLC	2,772,643(4)	9.99%	2,772,643	—	—
Investor Company ITF Rosalind Master Fund L.P.	970,425(5)	6.73%	970,425	—	—
Michael Joseph Valentino & Karen Valentino	921,347(6)	6.41%	556,290	365,057	1.89%
Lincoln Park Capital Fund, LLC	554,528(7)	3.90%	554,528	—	—
WJD Investment Partners LLC	472,500(8)	3.34%	472,500	—	—
683 Capital Partners, LP	353,909(9)	2.49%	63,000	290,909	1.50%

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District 2 Capital Fund LP	277,265(10)	1.97%	277,265	—	—
Jay Zises & Nancy Zises	259,000(11)	1.84%	210,000	49,000	*
Empery Tax Efficient III, LP	209,431(12)	1.49%	209,431	—	—
Empery Tax Efficient, LP	84,816(13)	*	67,834	16,982	*
Smokeshire Partners, LLC	272,732(14)	1.94%	136,500	136,232	*
Mintz & Co.	264,181(15)	1.88%	130,200	133,981	*
Christopher & Anna Guttilla	149,000(16)	1.06%	105,000	44,000	*
Laurence Zalk	141,364(17)	1.01%	105,000	36,364	*
William P. Saunders	139,072(18)	*	139,072	—	—
Raymond Scott	93,864(19)	*	73,500	20,364	*
Lara Zises	96,550(20)	*	87,150	9,400	*
Meryl Zises 2010 Trust	92,450(21)	*	61,950	30,500	*
Samantha Zises Cohen	77,420(22)	*	70,350	7,070	*
Richard Hackel	55,453(23)	*	55,453	—	—
Jay Zises	170,900(24)	1.23%	41,697	129,203	*
Nancy Zises	55,360(25)	*	37,800	17,560	*
Aileen J. Frankel Family Trust	22,500(26)	*	10,500	12,000	*
Barry Frankel Revocable Trust	9,908(27)	*	5,552	4,356	*

- * Less than one percent.
- (1) Under the terms of the Warrants, the number of shares of our common stock that may be acquired by a selling stockholder upon any exercise of a Warrant is generally limited to the extent necessary to ensure that, following such exercise, such selling stockholder would not, together with its affiliates and any other persons or entities whose beneficial ownership of our common stock would be aggregated with such selling stockholder for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), beneficially own in excess of 9.99% of the total number of shares of our common stock then issued and outstanding and/or the then combined voting power of all of our voting securities (the “Exercise Limitation”). The Exercise Limitation (i) may be increased, decreased or terminated, in each selling stockholder’s sole discretion, upon sixty-one (61) days’ prior written notice to us and (ii) shall terminate automatically on the date that is fifteen (15) days prior to the expiration of the Warrants. If the operation of the Exercise Limitation currently limits the beneficial ownership of a selling stockholder, such limitation is noted in the footnotes that follow. In addition, as noted in footnote (2), the number of shares shown under the column titled “Number of Shares Offered” is shown without regard to the Exercise Limitation.
- (2) The number of shares offered hereby, for each selling stockholder, consists solely of the shares issued to such selling stockholder pursuant to the securities purchase agreement and the shares issuable upon exercise of the Warrants issued to such selling stockholder. The shares issuable upon exercise of the Warrants will become eligible for sale by the selling stockholders under this prospectus only as the Warrants are exercised. In addition, the number of shares offered hereby shown under the column titled “Number of Shares Offered” includes the maximum number of shares issuable upon the exercise of the Warrants without regard to the Exercise Limitation described in footnote (1) above.
- (3) Represents (i) 1,320,306 outstanding shares of common stock, (ii) 1,452,337 shares of common stock issuable upon exercise of the Warrants and (iii) 436,364 shares of common stock issuable upon exercise of warrants (the “2017 Warrants”). The beneficial ownership of the Warrants held by the selling stockholder is currently limited by the Exercise Limitation. White Rock Management, L.P. is the general partner of, and may be deemed to beneficially own the securities held by, White Rock Capital Partners, L.P. White Rock Capital (TX), Inc. is the general partner of, and may be deemed to beneficially own the securities beneficially owned by, White Rock Capital Management, L.P. Thomas U. Barton and Joseph U. Barton are the shareholders of, and may be deemed to beneficially own the securities beneficially owned by, White Rock Capital (TX), Inc.
- (4) Represents (i) 1,320,306 outstanding shares of common stock and (ii) 1,452,337 shares of common stock issuable upon exercise of the Warrants. The beneficial ownership of the Warrants held by the selling stockholder is currently limited by the Exercise Limitation. Robert D. Hardie has voting and investment control over, and may be deemed to beneficially own, the securities beneficially held by Level One Partners, LLC.

- (5) Represents (i) 462,107 outstanding shares of common stock and (ii) 508,318 shares of common stock issuable upon exercise of the Warrants. Rosalind Advisors, Inc. is the investment advisor to Rosalind Master Fund L.P. and may be deemed the beneficial owner of shares held by Rosalind Master Fund L.P. Steven Salamon is the portfolio manager of Rosalind Advisors, Inc. and may be deemed to beneficially own the securities held by Rosalind Master Fund L.P.
- (6) Represents (i) 264,900 outstanding shares of common stock, (ii) 291,390 shares of common stock issuable upon exercise of the Warrants, (iii) 196,790 outstanding shares of common stock previously held by Mr. Valentino, (iv) options to purchase 139,176 shares of common stock and (v) 29,091 shares of common stock issuable upon exercise of the 2017 Warrants.
- (7) Represents (i) 264,061 outstanding shares of common stock and (ii) 290,467 shares of common stock issuable upon exercise of the Warrants. Lincoln Park Capital, LLC is the managing member of Lincoln Park Capital Fund, LLC. Rockledge Capital Corporation and Alex Noah Investors, Inc. are the managing members of Lincoln Park Capital, LLC. Joshua Scheinfeld is the president and sole shareholder of Rockledge Capital Corporation, as well as a principal of Lincoln Park Capital, LLC. Jonathan Cope is the president and sole shareholder of Alex Noah Investors, Inc., as well as a principal of Lincoln Park Capital, LLC. As a result of the foregoing, Mr. Scheinfeld and Mr. Cope have shared voting and shared investment power over the securities held directly by Lincoln Park Capital Fund, LLC.
- (8) Represents (i) 225,000 outstanding shares of common stock and (ii) 247,500 shares of common stock issuable upon exercise of the Warrants. Donald Kleckner is the manager of, and may be deemed to beneficially own the securities held by, WJD Investment Partners LLC.
- (9) Represents (i) 30,000 outstanding shares of common stock, (ii) 33,000 shares of common stock issuable upon exercise of the Warrants and (iii) 290,909 shares of common stock issuable upon exercise of the 2017 Warrants. 683 Capital Management, LLC is the investment manager of 683 Capital Partners, LP and may be deemed to have beneficial ownership over the securities held by 683 Capital Partners, LP. Ari Zweiman, as the managing member of 683 Capital Management, LLC, may be deemed to beneficially own the securities held by 683 Capital Partners, LP.
- (10) Represents (i) 132,031 outstanding shares of common stock and (ii) 145,234 shares of common stock issuable upon exercise of the Warrants. Michael Bigger and Eric Schlanger are Managing Members of District 2 GP LLC, which is the general partner of District 2 Capital Fund LP, and, in such capacity, may be deemed to have voting and dispositive power over the securities held by District 2 Capital Fund LP.

- (11) Represents (i) 100,000 outstanding shares of common stock, (ii) 110,000 shares of common stock issuable upon exercise of the Warrants and (iii) 16,500 shares of common stock issuable upon exercise of the 2017 Warrants held as Jay and Nancy Zises JTWROS.
- (12) Represents (i) 99,729 outstanding shares of common stock and (ii) 109,702 shares of common stock issuable upon exercise of the Warrants. Empery Asset Management LP, the authorized agent of Empery Tax Efficient III, LP (“ETE III”), has discretionary authority to vote and dispose of the securities held by ETE III and may be deemed to be the beneficial owner of the securities beneficially owned by ETE III. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the securities held by ETE III. ETE III, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares.
- (13) Represents (i) 32,302 outstanding shares of common stock, (ii) 35,532 shares of common stock issuable upon exercise of the Warrants and (iii) 16,982 shares of common stock issuable upon exercise of the 2017 Warrants. Empery Asset Management LP, the authorized agent of Empery Tax Efficient, LP (“ETE”), has discretionary authority to vote and dispose of the securities held by ETE and may be deemed to be the beneficial owner of the securities beneficially owned by ETE. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the securities held by ETE. ETE, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares.
- (14) Represents (i) 65,000 outstanding shares of common stock, (ii) 71,500 shares of common stock issuable upon exercise of the Warrants, (iii) 72,727 shares of common stock issuable upon exercise of the 2017 Warrants and (iv) 63,505 outstanding shares of common stock previously held by Smokeshire Partners, LLC. Mintz & Co. is the manager of, and may be deemed to have or share voting and dispositive power over, and/or beneficially own securities owned by, Smokeshire Partners, LLC. Lowell A. Mintz is the senior partner of, and may be deemed to have or share voting and dispositive power over, and/or beneficially own securities owned by, Mintz & Co. and, as such, Mr. Mintz may be deemed to beneficially own the securities held by Smokeshire Partners, LLC.
- (15) Represents (i) 62,000 outstanding shares of common stock, (ii) 68,200 shares of common stock issuable upon exercise of the Warrants, (iii) 72,727 shares of common stock issuable upon exercise of the 2017 Warrants and (iv) 61,254 outstanding shares of common stock previously held by Mintz & Co. Lowell A. Mintz is the senior partner of, and may be deemed to have or share voting and dispositive power over, and/or beneficially own securities owned by, Mintz & Co.
- (16) Represents (i) 50,000 outstanding shares of common stock, (ii) 55,000 shares of common stock issuable upon exercise of the Warrants, (iii) 20,000 shares of common stock issuable upon exercise of the 2017 Warrants held as Chris and Anna Guttilla JTWROS and (iv) 24,000 shares of common stock issuable upon exercise of the 2017 Warrants held by Ms. Guttilla in the Anna Guttilla IRA.

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- (17) Represents (i) 50,000 outstanding shares of common stock, (ii) 55,000 shares of common stock issuable upon exercise of the Warrants and (iii) 36,364 shares of common stock issuable upon exercise of the 2017 Warrants.
- (18) Represents (i) 66,225 outstanding shares of common stock and (ii) 72,847 shares of common stock issuable upon exercise of the Warrants.
- (19) Represents (i) 35,000 outstanding shares of common stock, (ii) 38,500 shares of common stock issuable upon exercise of the Warrants and (iii) 20,364 shares of common stock issuable upon exercise of the 2017 Warrants.
- (20) Represents (i) 41,500 outstanding shares of common stock, (ii) 45,650 shares of common stock issuable upon exercise of the Warrants, (iii) 500 shares of common stock issuable upon exercise of the 2017 Warrants, (iv) 8,500 outstanding shares of common stock previously held by Ms. Zises and (v) 400 outstanding shares of common stock previously held by the Lara Zises Roth IRA (a self-directed IRA).
- (21) Represents (i) 29,500 outstanding shares of common stock, (ii) 32,450 shares of common stock issuable upon exercise of the Warrants, (iii) 10,000 shares of common stock issuable upon exercise of the 2017 Warrants and (iv) 20,500 outstanding shares of common stock previously held by the Meryl Zises 2010 Trust. Nancy Zises, as the trustee of the Meryl Zises 2010 Trust, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, the Meryl Zises 2010 Trust.
- (22) Represents (i) 33,500 outstanding shares of common stock, (ii) 36,850 shares of common stock issuable upon exercise of the Warrants, (iii) 500 shares of common stock issuable upon exercise of the 2017 Warrants, (iv) 6,500 outstanding shares of common stock previously held by Ms. Cohen and (v) 70 outstanding shares of common stock previously held by the Samantha Zises Cohen IRA (a self-directed IRA).
- (23) Represents (i) 26,406 outstanding shares of common stock and (ii) 29,047 shares of common stock issuable upon exercise of the Warrants.
- (24) Represents (i) 19,856 outstanding shares of common stock, (ii) 21,841 shares of common stock issuable upon exercise of the Warrants, (iii) 73,029 shares of common stock held in the Jay Zises IRA (a self-directed IRA), (iv) 17,369 outstanding shares of common stock previously held by Mr. Zises, (v) 7,500 shares of common stock issuable upon exercise of the 2017 Warrants held in the Jay Zises, IRA (a self-directed IRA), (vi) 27,705 shares of common stock previously held by the Justin Zises Trust, which Mr. Zises as the trustee of the Justin Zises Trust, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, the Justin Zises Trust, (vii) 1,200 shares of common stock previously held by Jamie Zises UTMA, which Mr. Zises as the trustee of Jamie Zises UTMA, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, Jamie Zises UTMA, (viii) 1,200 shares of common stock previously held by Freddie Zises UTMA, which Mr. Zises as the trustee of Freddie Zises UTMA, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, Freddie Zises UTMA and (ix) 1,200 shares of common stock previously held by Margot Zises UTMA, which Mr. Zises as the trustee of Margot Zises UTMA, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, Margo Zises UTMA.
- (25) Represents (i) 18,000 outstanding shares of common stock, (ii) 19,800 shares of common stock issuable upon exercise of the Warrants, (iii) 1,000 shares of common stock previously held by Ms. Zises, (iv) 12,660 shares of common stock held in the Nancy Zises IRA (a self-directed IRA) and (v) 3,900 shares of common stock previously held by the Jay H. Zises 2011 Trust, which Ms. Zises as the trustee of the Jay H. Zises 2011 Trust, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, the Jay H. Zises 2011 Trust. The securities reported herein do not include the securities held by the Meryl Zises 2010 Trust, which Ms. Zises, as the trustee of the Meryl Zises 2010 Trust may be deemed to beneficially own, which securities are reported in footnote 21 above.
- (26) Represents (i) 5,000 outstanding shares of common stock, (ii) 5,500 shares of common stock issuable upon exercise of the Warrants, (iii) 2,000 shares of common stock issuable upon exercise of the 2017 Warrants and (iv) 10,000 outstanding shares of common stock previously held by the Aileen Frankel Family Trust. Aileen J. Frankel, as the trustee of the Aileen J. Frankel Family Trust, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, the Aileen J. Frankel Family Trust.

- (27) Represents (i) 2,644 outstanding shares of common stock, (ii) 2,908 shares of common stock issuable upon exercise of the Warrants, (iii) 2,000 shares of common stock issuable upon exercise of the 2017 Warrants and (iv) 2,356 outstanding shares of common stock previously held by the Barry Frankel Revocable Trust. Barry Frankel, as the trustee of the Barry Frankel Revocable Trust, has voting and dispositive power over, and may be deemed to beneficially own the securities held by, the Barry Frankel Revocable Trust.

Relationships with the Selling Stockholders

Neither the selling stockholders nor any of the persons that control them has had any material relationships with us or our affiliates within the past three (3) years, except for Michael Joseph Valentino, who has been the Executive Chairman of the Board of Directors of the Company since July 2011, and Christopher Guttilla, who is a managing director of Alex. Brown, a division of Raymond James & Associates, the Company's placement agent in the offering.

PLAN OF DISTRIBUTION

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest, selling shares of common stock previously issued and the shares of common stock issuable upon exercise of the warrants or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. The selling stockholders may sell their shares of our common stock pursuant to this prospectus at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;

- privately negotiated transactions;
- short sales;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock or warrants owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors-in-interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors-in-interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be “underwriters” within the meaning of Section 2(a)(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(a)(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until such time as the shares offered by the selling stockholders have been effectively registered under the Securities Act and disposed of in accordance with such registration statement, the shares offered by the selling stockholders have been disposed of pursuant to Rule 144 under the Securities Act or the shares offered by the selling stockholders may be resold pursuant to Rule 144 without restriction or limitation (including without the requirement to be in compliance with Rule 144(c)(1)) or another similar exemption under the Securities Act.

LEGAL MATTERS

The validity of the common stock being offered hereby has been passed upon for us by Olshan Frome Wolosky LLP, New York, New York.

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 2019 have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference.

Such financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site at <http://www.sec.gov/> that contains reports, proxy and information statements, and other information regarding issuers, such as us, that file electronically with the SEC. Additionally, you may access our filings with the SEC through our website at <https://plxpharma.com/>. The information on our website is not part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, until the sale of all the shares of common stock that are part of this offering. The documents we are incorporating by reference are as follows:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 13, 2020, as amended on Form 10-K/A on April 24, 2020;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on May 15, 2020, our Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, filed with the SEC on August 14, 2020 and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, filed with the SEC on November 13, 2020;
- Our Definitive Proxy Statement on Schedule 14A filed with the SEC on September 25, 2020;
- Our Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on January 6, 2020, March 13, 2020, April 23, 2020, May 4, 2020, May 18, 2020, August 14, 2020, September 22, 2020, October 30, 2020, November 16, 2020 and November 30, 2020; and
- The description of our common stock contained in our registration statement on Form 8-A, declared effective by the SEC on March 12, 2014, including any amendments or reports filed for the purpose of updating that description.

All documents filed pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the initial registration statement and prior to effectiveness of the registration statement and after the date of this prospectus but prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold shall be deemed to be incorporated by reference into this registration statement and to be a part hereof from the date of filing of such documents, provided, however, that the registrant is not incorporating any information furnished under either Item 2.02 or Item 7.01 of any Current Report on Form 8-K.

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

The documents incorporated by reference in this prospectus may be obtained from us without charge and will be provided to each person, including any beneficial owner, to whom a prospectus is delivered. You may obtain a copy of the documents at no cost by submitting an oral or written request to:

PLx Pharma Inc.
9 Fishers Lane, Ste. E
Sparta, New Jersey 07871
Attn: Corporate Secretary
(973) 409-6541

Additional information about us is available at our web site located at <https://plxpharma.com/>. Information contained in our web site is not a part of this prospectus.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the Company, the Company has been advised that it is the SEC's opinion that such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.