

REPROS THERAPEUTICS INC.

FORM 424B5

(Prospectus filed pursuant to Rule 424(b)(5))

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The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities, and we are not soliciting offers to buy these securities, in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 17, 2017

Preliminary Prospectus Supplement
(to the Prospectus dated June 23, 2016)

Repros Therapeutics Inc.

	Shares of Common Stock
Series A Warrants to Purchase	Shares of Common Stock
Series B Warrants to Purchase	Shares of Common Stock
Pre-Funded Series C Warrants to Purchase up to	Shares of Common Stock
Shares of Common Stock underlying the Pre-Funded Series C Warrants	

We are offering _____ shares of our common stock and warrants to purchase shares of our common stock pursuant to this prospectus supplement and the accompanying prospectus. We are also offering to certain investors whose purchase of shares of common stock in this offering would result in the investor, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock following the consummation of this offering the opportunity to purchase, in lieu of shares of our common stock, warrants, which we refer to as pre-funded Series C warrants, to purchase up to _____ shares of our common stock. Each pre-funded Series C warrant will have an aggregate exercise price of \$ _____ per share of common stock, all of which will be pre-funded except for a nominal exercise price of \$0.001 per share of common stock. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the pre-funded Series C warrants. See "Description of Warrants" on page S-12 for more information on the securities offered hereby.

The shares of common stock and warrants will be issued separately. Each share of common stock is being sold together with a Series A Warrant to purchase 0.75 share of our common stock and a Series B Warrant to purchase 0.50 share of our common stock. In addition, each pre-funded Series C Warrant is being sold together with a Series A Warrant to purchase 0.75 share of our common stock for each share of our common stock issuable upon exercise of such pre-funded Series C Warrant, and a Series B Warrant to purchase 0.50 share of our common stock for each share of our common stock issuable upon exercise of such pre-funded Series C Warrant. Each Series A Warrant will have an exercise equal to \$ _____ per share and each Series B Warrant will have an exercise price equal to \$ _____ per share. The warrants will be immediately exercisable. Series A Warrants will expire on the fifth anniversary of the original issuance date. Series B Warrants will expire on the second anniversary of the original issuance date. Pre-funded Series C Warrants will expire on the second anniversary of the original issuance date.

Our common stock is listed on the NASDAQ Capital Market under the symbol "RPRX." On May 17, 2017, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.80 per share. There is no established public trading market for the warrants, including the pre-funded Series C Warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants, including the pre-funded Series C Warrants, on any national securities exchange or other trading market. Without an active trading market, the liquidity of the warrants, including the pre-funded Series C warrants, will be limited.

On March 31, 2017, the date we filed our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, our prospectus became subject to the offering limits in General Instruction I.B.6 of Form S-3.

On March 29, 2017, the closing price of our common stock on The NASDAQ Capital Market was \$1.21 per share. The aggregate market value of our common stock held by non-affiliates calculated pursuant to General Instruction I.B.6 of Form S-3 is \$32,211,622, which was calculated based on 26,621,175 shares of our common stock outstanding held by non-affiliates and at a price of \$1.21 per share, the closing price of our common stock on March 29, 2017. Other than the sales of 21,100 shares of common stock sold since April 1, 2017 under our at-the-market program pursuant to the Equity Distribution Agreement between us and Ladenburg Thalmann & Co. Inc., none of our prior sales of common stock have been made pursuant to General Instruction I.B.6 of Form S-3.

Investing in our securities involves risks. See "Risk Factors" beginning on page S-8 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.

	Per Share and Accompanying Warrants	Per Pre-Funded Series C Warrant and Accompanying Warrants	Total
Combined Public offering price	\$	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

(1) We have agreed to reimburse the underwriter for certain expenses. See “Underwriting.”

The underwriter expects to deliver shares of common stock and warrants to purchase shares of common stock, including the pre-funded Series C warrants, to purchasers on or about May , 2017.

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

Laidlaw & Company (UK) Ltd.

The date of this prospectus supplement is May , 2017.

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ABOUT THIS PROSPECTUS SUPPLEMENT

You should rely only on the information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the underwriter has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriter is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus in their entirety before making an investment decision. You also should read and consider the information in the documents to which we have referred you in the section of this prospectus supplement entitled “Information Incorporated by Reference” and the sections of the accompanying prospectus entitled “Information Incorporated by Reference” and “Where You Can Find More Information.”

This prospectus supplement and the accompanying prospectus form a part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “Commission”) utilizing a “shelf” registration process. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part, the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer only to the “prospectus,” we are referring to both parts combined. This prospectus supplement may add to, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference herein or therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference herein and therein.

For investors outside the United States, we have not done anything that would permit this offering or possession or distribution of this prospectus supplement in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus supplement outside of the United States.

As permitted by the rules and regulations of the Commission, the registration statement, of which this prospectus supplement and the accompanying prospectus form a part, includes additional information not contained in this prospectus supplement or the accompanying prospectus. You may read the registration statement and the other reports we file with the Commission at the Commission's web site or at the Commission's offices described below under the heading “Where You Can Find Additional Information.”

Trademarks, service marks or trade names of any other companies appearing in this prospectus supplement are the property of their respective owners. Use or display by us of trademarks, service marks or trade names owned by others is not intended to and does not imply a relationship between us and, or endorsement or sponsorship by, the owners of the trademarks, service marks or trade names.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated herein by reference, in particular the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” incorporated herein by reference, contain certain “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These forward-looking statements represent our expectations, beliefs, intentions or strategies concerning future events, including, but not limited to, any statements regarding our assumptions about financial performance; the continuation of historical trends; the sufficiency of our cash balances for future liquidity and capital resource needs; the expected impact of changes in accounting policies on our results of operations, financial condition or cash flows; anticipated problems and our plans for future operations; and the economy in general or the future of the medical device industry, all of which are subject to various risks and uncertainties.

When we use in this prospectus supplement as well as in reports, statements, and information we have filed with the Commission, in our press releases, in presentations to securities analysts or investors, or in oral statements made by or with the approval of an executive officer, the words or phrases “believes,” “may,” “will,” “expects,” “should,” “continue,” “anticipates,” “intends,” “will likely result,” “estimates,” “projects” or similar expressions and variations thereof, we intend to identify forward-looking statements. However, any statements contained in this prospectus supplement that are not statements of historical fact may be deemed to be forward-looking statements. We caution that these statements by their nature involve risks and uncertainties, certain of which are beyond our control, and actual results may differ materially depending on a variety of important factors.

PROSPECTUS SUPPLEMENT SUMMARY

The following summary highlights some of the information contained elsewhere in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein. Because this is only a summary, however, it does not contain all of the information that may be important to you. You should carefully read this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference, which are described under "Information Incorporated by Reference" in this prospectus supplement and under "Information Incorporated by Reference" and "Where You Can Find More Information" in the accompanying prospectus. You also should carefully consider the matters discussed in the section entitled "Risk Factors" in the accompanying prospectus and in other periodic reports incorporated herein by reference.

Company Overview

Repros Therapeutics Inc. (the "Company," "Repros," or "we," "us" or "our") was organized on August 20, 1987. We are a biopharmaceutical company focused on the development of new drugs to treat hormonal and reproductive system disorders.

We are developing Proellex®, an orally administered selective blocker of the progesterone receptor in women, for the treatment of uterine fibroids and endometriosis. Uterine fibroids and endometriosis affect millions of women of reproductive age. Proellex® has shown statistically significant results in previous Phase 2 studies for uterine fibroids and endometriosis. We completed a low dose escalating study as permitted by the Food and Drug Administration ("FDA") in late 2011, to determine both signals of efficacy and safety for low oral doses of the drug. There was no evidence of elevations of liver enzymes over baseline, suggesting these lower doses avoid the type of adverse events seen at much higher doses in earlier studies. On March 17, 2014, we announced that the FDA indicated that we may proceed to conduct Phase 1 and Phase 2 studies of low dose oral Proellex® for uterine fibroids and endometriosis while remaining on partial clinical hold. This guidance indicated that the highest allowed dose will be 12 mg daily. On December 29, 2014, we announced that we have initiated a Phase 2B study for low dose oral Proellex® in the treatment of uterine fibroids. This study was fully enrolled in January 2016 and on November 14, 2016, we announced positive clinical data from this study after two 18-week courses of treatment as compared to placebo. On April 10, 2017, we announced we had a meeting with the FDA to discuss the progress and next steps in the development of Proellex® for the treatment of uterine fibroids. Shortly before the meeting, we were notified that the meeting would be a type C/Guidance meeting, rather than a type B/End of phase 2 meeting as previously anticipated. At the meeting, the FDA confirmed that Proellex® will continue on the current partial clinical hold while they consult with liver experts within the FDA regarding previously disclosed effects on the liver.

We have an active Investigational New Drug Application ("IND") for the vaginal delivery of Proellex® for the treatment of uterine fibroids. Since the clinical hold relates only to oral delivery of Proellex®, this IND has no clinical hold issues. In the first quarter of 2012, we initiated a Phase 2 vaginal administration study for the treatment of uterine fibroids and subsequently reported the final study results in January 2013. We held an end of Phase 2 meeting with the FDA in May 2013, to discuss a Phase 3 study design for vaginally delivered Proellex as a treatment for uterine fibroids. The FDA recommended that a Phase 2B study should be conducted prior to commencing a Phase 3 program. On December 29, 2014, we announced that we have initiated a Phase 2B study for vaginally delivered Proellex® in the treatment of uterine fibroids. This study was fully enrolled in January 2016 and on November 14, 2016, we announced positive clinical data from this study after two 18-week courses of treatment as compared to placebo. However, we plan to propose the oral route of administration for Phase 3 development.

We are also developing enclomiphene, a single isomer of clomiphene citrate which is an orally active proprietary small molecule compound. Enclomiphene is for the treatment of secondary hypogonadism in overweight men wishing to restore normal testicular function. Men with secondary hypogonadism exhibit low testosterone levels due to under stimulated testes but they are generally fertile. Enclomiphene is designed to treat the underlying mechanism, insufficient stimulation of the testes by the pituitary, which causes secondary hypogonadism. Secondary hypogonadism due to being overweight or obese is the single greatest cause of hypogonadism in general.

In December 2011, we completed a Phase 2B study of enclomiphene in men with secondary hypogonadism, but naïve to testosterone treatment, at the recommendation of the FDA. Top line results of this study demonstrated that enclomiphene was generally well tolerated compared to placebo and that there were no drug related serious adverse events that led to discontinuation. We met with the FDA in May 2012 to discuss the design of pivotal Phase 3 efficacy studies for enclomiphene as well as the components of the overall drug development program required for a New Drug Application (“NDA”) submission and agreed on registration requirements for enclomiphene oral therapy for the treatment of secondary hypogonadism. In July 2012, we announced that we reached an agreement with the FDA for the design of the pivotal efficacy studies for enclomiphene for the treatment of secondary hypogonadism. The pivotal studies were conducted under a Special Protocol Assessment (“SPA”). We have completed both Phase 3 pivotal efficacy studies. On March 27, 2013, we announced that the top-line results from our first pivotal Phase 3 study, ZA-301, met both co-primary endpoints mandated by the FDA, and we announced on September 16, 2013, that we met both co-primary endpoints in the second pivotal study, ZA-302. Additionally, on September 16, 2013, we announced the results from ZA-300, a six-month safety study. This study identified no new safety issues. On October 22, 2013, we announced that we received guidance from the FDA instructing us to request a meeting to discuss the adequacy of studies ZA-301 and ZA-302. In addition to this guidance, the FDA further noted that they would allow us to run head-to-head studies against approved testosterone replacement products. These head-to-head studies, ZA-304 and ZA-305, were initiated in January 2014 and subsequently completed in September and August 2014, respectively. Both of these head-to-head studies achieved superiority for both co-primary endpoints and most secondary endpoints as compared to the approved testosterone replacement product. On October 21, 2014, we announced the results from ZA-303, a 52 week, single-blind, placebo-controlled Phase 3 study to evaluate the effects on bone mineral density. In this study, no new safety signals were identified, including no evidence of negative effects on bone mineral density. On February 2, 2015, we announced that we electronically submitted our NDA to the FDA for enclomiphene. The FDA accepted the NDA for review on April 1, 2015 and later assigned a Prescription Drug User Fee (“PDUFA”) goal date of November 30, 2015. In addition, the Division of Bone, Reproductive and Urologic Products (the “Division”) of the FDA scheduled an advisory committee meeting to review the NDA for November 3, 2015. However, the Division subsequently cancelled the scheduled advisory committee meeting due to questions that arose late in the review regarding the bioanalytical method validation that could affect interpretability of certain pivotal study data. On December 1, 2015, we announced that we had received a Complete Response Letter (“CRL”) from the FDA. A CRL informs companies that an NDA cannot be approved in its present form. In the CRL, the FDA stated that, based on recent scientific developments, the design of the enclomiphene Phase 3 studies is no longer adequate to demonstrate clinical benefit and recommended that Repros conduct an additional Phase 3 study or studies to support approval in the target population. The FDA also noted concerns regarding study entry criteria, titration and bioanalytical method validation in the Phase 3 program.

Subsequently, on February 4, 2016, we attended a meeting with the FDA reviewers and senior leaders to discuss resolution of issues identified during the NDA review. The meeting covered a broad range of topics surrounding the NDA data as well as emerging agency and expert thinking regarding the treatment of hypogonadism. We believe based on the meeting that the FDA is not closed to considering secondary hypogonadism as an indication. Additionally, in January 2016, we initiated a Phase 2 double-blind, placebo controlled, proof of concept study, ZA-205, in obese secondary hypogonadal men to assess the impact of enclomiphene on metabolic parameters and quality of life under a diet and exercise regimen. This study was fully enrolled in February 2016 and on August 15, 2016, we reported six month interim results from this study.

Additionally, on September 12, 2016, we reported that we successfully submitted a European centralized marketing authorization application (“MAA”) for enclomiphene for the treatment of secondary hypogonadism. This MAA was subsequently accepted by the European Medicines Agency (“EMA”) which, as previously reported, has assigned the United Kingdom as the primary rapporteur and France as the co-rapporteur for the application review.

On December 6, 2016, we participated in the industry presentation at the Bone, Reproductive and Urologic Drugs’ Advisory Committee meeting. The advisory panel provided the FDA with advice regarding a clinical and regulatory path to approval for products, such as enclomiphene, in subjects with obesity-related hypogonadism who wish to maintain spermatogenesis. The panel voted 16 to 5 that the achievement of testosterone improvement while maintaining evidence of spermatogenesis was not sufficient, in and of itself, to provide evidence of clinical benefit. At the meeting, numerous panel members suggested that an additional endpoint related to symptoms should be assessed.

Risks Associated with our Business

We have experienced substantial operating losses since inception. As of March 31, 2017, we had accumulated losses of \$325.4 million, approximately \$3.2 million in cash and cash equivalents, and accounts payable and accrued expenses of approximately \$3.8 million, in the aggregate. We anticipate that our current liquidity will be sufficient to continue the development of our product candidates through the second quarter of 2017. We continue to explore potential additional financing alternatives, including corporate partnering opportunities, that would provide sufficient funds to enable us to continue to develop our two product candidates through FDA approval; however, there can be no assurance that we will be successful in raising any such additional funds on a timely basis or at all. The foregoing matters raise substantial doubt about our ability to continue as a going concern.

Our Contact Information

Our executive offices are located at 2408 Timberloch Place, Suite B-7, The Woodlands, Texas. Our telephone number is (281) 719-3400. Our website address is www.reprosrx.com. Our website and the information contained on our website are not incorporated by reference into this prospectus supplement, the accompanying prospectus or the registration statement of which it forms a part.

THE OFFERING

Common stock offered by us	Shares
Pre-funded Series C warrants offered by us	Pre-funded Series C warrants to purchase up to _____ shares of common stock at an aggregate exercise price of \$ _____ per share of common stock, all of which will be pre-funded except for a nominal exercise price of \$0.001 per share of common stock. The pre-funded Series C warrants will be exercisable, subject to certain limitations, upon issuance and will expire two years from the date of issuance, subject to extension under certain circumstances. There is currently no market for the pre-funded Series C warrants, and none is expected to develop after this offering. The pre-funded Series C warrants will be issued in certificated form. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the pre-funded Series C warrants.
Limitation on exercise of pre-funded Series C Warrant	A holder will not have the right to exercise any portion of the pre-funded Series C warrants if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded Series C warrants.
Common stock to be outstanding after this offering	_____ shares or _____ shares if the warrants sold in this offering are exercised in full (including the pre-funded Series C warrants).
Warrants Offered by us	Each share of common stock is being sold together with a Series A Warrant to purchase 0.75 share of our common stock and a Series B Warrant to purchase 0.50 share of our common stock. In addition, each pre-funded Series C Warrant is being sold together with a Series A Warrant to purchase 0.75 share of our common stock for each share of our common stock issuable upon exercise of such pre-funded Series C Warrant, and a Series B Warrant to purchase 0.50 share of our common stock for each share of our common stock issuable upon exercise of such pre-funded Series C Warrant. Each Series A Warrant will have an exercise price equal to \$ _____ per share (105% of the public offering price of the shares of common stock offered hereby) and each Series B Warrant will have an exercise price equal to \$ _____ per share (115% of the public offering price of the shares of common stock offered hereby). The warrants will be immediately exercisable. Series A Warrants will expire on the fifth anniversary of the original issuance date. Series B Warrants will expire on the second anniversary of the original issuance date. Pre-funded Series C warrants will expire on the second anniversary of the original issuance date. The shares of common stock, the pre-funded Series C warrants and Series A and Series B warrants will be issued separately. There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any national securities exchange or other nationally recognized trading system. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the warrants.
Use of proceeds	We intend to use the net proceeds from this offering for general corporate purposes. See "Use of Proceeds" on page S-10.
Risk factors	This investment involves a high degree of risk. You should read the "Risk Factors" section of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement for a discussion of factors to consider before deciding to invest in our common stock.
NASDAQ Capital Market symbol	"RPRX."

The number of shares of common stock to be outstanding immediately after this offering is based on 26,685,419 shares outstanding on March 31, 2017, and excludes as of that date:

- 2,897,690 shares of common stock issuable upon exercise of outstanding stock options under our stock incentive plans at a weighted average exercise price of \$7.65 per share;
- 188,890 shares of common stock issuable upon the vesting of unvested restricted stock units under our stock incentive plans;



- 223,802 additional shares of common stock reserved for future issuance under our stock incentive plans.
- shares of common stock issuable upon the exercise of the pre-funded Series C warrants issued hereunder; and

Prior to this offering, as of May 10, 2017, the number of outstanding shares of common stock was 26,732,074 shares.

RISK FACTORS

An investment in our securities involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described below and discussed in the section titled “Risk Factors” in our most recent Annual Report on Form 10-K, as well as the risks, uncertainties and additional information set forth in our Commission reports on Forms 10-K, 10-Q and 8-K and in other documents incorporated by reference in this prospectus supplement. The risks described in such documents are not intended to be an all-inclusive list of the potential risks relating to an investment in our securities. Any of such risk factors could significantly and adversely affect our business, prospects, financial condition and results of operations. Additional risks and uncertainties not currently known or that are currently considered to be immaterial may also materially and adversely affect our business. As a result, the trading price or value of our securities could be materially adversely affected and you may lose all or part of your investment.

Risks Related to Our Common Stock and This Offering

Management will have broad discretion as to the use of the proceeds from this offering and may not use the proceeds effectively.

Because we have not designated the amount of net proceeds from this offering to be used for any particular purpose, our management will have broad discretion as to the application of the net proceeds from this offering, as described below in “Use of Proceeds,” and could use them for purposes other than those contemplated at the time of the offering. Our management may use the net proceeds for corporate purposes that may not improve our financial condition or market value of our common stock.

You will experience immediate dilution.

Since the price per share of our common stock being offered is higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on the combined public offering price of \$ per share and accompanying warrants (or for the pre-funded Series C warrants, the combined public offering price of the pre-funded Series C warrants and the accompanying warrants), and after deducting the underwriting discount and estimated offering expenses payable by us, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$ per share in the net tangible book value of the common stock as of March 31, 2017. See the section entitled “Dilution” in this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering. To the extent outstanding stock options or warrants are exercised, there will be further dilution to new investors.

Our shareholders may experience significant dilution as a result of future equity offerings or issuances and exercise of outstanding options.

In order to raise additional capital or pursue strategic transactions, we may in the future offer, issue or sell additional shares of common stock or other securities convertible into or exchangeable for shares of our common stock. We cannot assure you that we will be able to sell shares or other securities in any other transaction at a price per share or that have an exercise price or conversion price per shares that is equal to or greater than the price for the securities purchased by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing shareholders. The price per share at which we sell or issue additional shares of common stock or other securities convertible into or exchangeable for our common stock future transactions may be higher or lower than such price.

Sales of a significant number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock.

Sales of a substantial number of shares of our common stock in the public markets could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. We cannot predict the effect that future sales of our common stock would have on the market price of our common stock.

There is no public market for the Series A Warrants, Series B Warrants and pre-funded Series C Warrants to purchase shares of common stock being offered in this offering.

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

The warrants are speculative in nature.

Commencing on the date of issuance, holders of the Series A Warrants, Series B Warrants and pre-funded Series C Warrants may exercise their right to acquire the common stock and pay an exercise price of \$ per share, \$ per share and \$ per share, respectively, subject to certain adjustments, prior to five years from the date of issuance for Series A Warrants, prior to two years from the date of issuance for Series B Warrants and prior to 2 years from the date of issuance for the pre-funded Series C Warrants, after which date any unexercised warrants will expire and have no further value. Moreover, following this offering, the market value of Series A Warrants and Series B Warrants is uncertain and there can be no assurance that the market value of the warrants will equal or exceed their public offering prices. Series A Warrants, Series B Warrants and pre-funded Series C Warrants will not be listed or quoted for trading on any market or exchange. There can be no assurance that the market price of the common stock will ever equal or exceed the exercise prices of the warrants, and consequently, whether it will ever be profitable for holders of the warrants to exercise the warrants.

The Series A Warrants and Series B Warrants may result in dilution to our stockholders.

As part of this offering we will issue the purchasers five-year Series A Warrants representing the right to acquire up to an additional shares of our common stock at an exercise price of \$ per share and two-year Series B Warrants representing the right to acquire up to an additional shares of our common stock at an exercise price of \$ per share. Both the Series A Warrant and the Series B Warrants contain so-called full-ratchet anti-dilution provisions, subject to a floor price of \$0.17 per share. These anti-dilution provisions may be triggered upon any future issuance by us of shares of our common stock or common stock equivalents at a price per share below the then-exercise price of the warrants, subject to some exceptions, which could result in significant additional dilution to our stockholders.

Holders of our Series A Warrants, Series B Warrants and pre-funded Series C Warrants will have no rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

Until holders of Series A Warrants, Series B Warrants and pre-funded Series C Warrants acquire shares of our common stock upon exercise of the warrants, such holders will have no rights with respect to the shares of our common stock underlying the Warrants. Upon exercise of the warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Our inability to comply with the listing requirements of the NASDAQ Capital Market could result in our common stock being delisted, which could affect our common stock's market price and liquidity and reduce our ability to raise capital.

We are required to meet certain qualitative and financial tests to maintain the listing of our common stock on the NASDAQ Capital Market. As of March 31, 2017, our stockholders' equity was \$1.6 million. As a result, we did not comply with the NASDAQ's \$2.5 million minimum stockholders' equity requirement under NASDAQ Listing Rule 5550(b)(1). Further, as of March 31, 2017, we did not meet the alternative compliance standards relating to the market value of listed securities or net income from continuing operations. On May 11, 2017, we received a letter from NASDAQ notifying us of our noncompliance with the minimum stockholders' equity requirement. We are evaluating various courses of actions to regain compliance and intend to timely submit to NASDAQ a plan to regain compliance. However, there can be no assurance that our plan will be accepted by NASDAQ or that if it is, we will be able to regain compliance.

If we do not regain compliance with the continued listing requirements for the NASDAQ Capital Market within specified periods and subject to permitted extensions (if any), our common stock may be recommended for delisting (subject to any appeal we would file). If our common stock is delisted, it could be more difficult to buy or sell our common stock and to obtain accurate quotations, and the price of our common stock could suffer a material decline. Delisting would also impair our ability to raise capital.

We do not intend to pay any cash dividends on our common stock in the foreseeable future and, therefore, any return on your investment in our common stock must come from increases in the fair market value and trading price of our common stock.

We do not intend to pay any cash dividends on our common stock in the foreseeable future and, therefore, any return on your investment in our common stock must come from increases in the fair market value and trading price of our common stock.

Significant holders or beneficial holders of our common stock may not be permitted to exercise pre-funded Series C warrants that they hold.

The terms of the pre-funded Series C warrants offered hereby prohibit a holder from exercising its pre-funded Series C warrants if doing so would result in such holder (together with such holder's affiliates) beneficially owning more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded Series C warrants. As a result, you may not be able to exercise your pre-funded Series C warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such circumstance you could seek to sell your pre-funded Series C warrants to realize value, but you may be unable to do so.

USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately \$ _____ million from the sale of the shares of common stock, pre-funded Series C warrants and accompanying warrants offered by us in this offering, after deducting the underwriting discounts and commissions and estimated offering costs payable by us.

We currently intend to use the net proceeds from this offering for general corporate purposes, including for research and development, sales and marketing initiatives, general and administrative expenses, working capital and capital expenditures.

We have not determined the amount of net proceeds from this offering that we will use specifically for the foregoing purposes. Pending use of the net proceeds, we intend to invest the proceeds in a variety of capital preservation instruments, including short-term, investment-grade, interest-bearing instruments.

DILUTION

If you invest in our common stock and accompanying warrants in this offering, your interest will be diluted to the extent of the difference between the combined public offering price and accompanying warrants per share and the net tangible book value per share of our common stock after this offering. As of March 31, 2017, our historical net tangible book value was \$1.6 million, or \$0.06 per share, based on 26,685,419 shares of our common stock outstanding as of March 31, 2017. Our historical net tangible book value per share represents the amount of our total tangible assets reduced by the amount of our total liabilities, divided by the total number of shares of our common stock outstanding as of March 31, 2017. After giving effect to our sale in this offering of _____ shares of common stock, Series A Warrants to purchase _____ shares of common stock, Series B Warrants to purchase _____ shares of common stock and pre-funded Series C warrants to purchase _____ shares of common stock, at the combined public offering price of \$ _____ per share and accompanying warrants (or for the pre-funded Series C warrants, the combined public offering price of the pre-funded Series C warrants and the accompanying warrants), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our net tangible book value as of March 31, 2017 would have been \$ _____ million, or \$ _____ per share. This represents an immediate increase of net tangible book value of \$ _____ per share to our existing stockholders and an immediate dilution of \$ _____ per share to investors purchasing shares of common stock and accompanying warrants in this offering. The following table illustrates this per share dilution.

Combined public offering price per share and accompanying warrants	\$
Historical net tangible book value per share at March 31, 2017	\$ 0.06
Increase in net tangible book value per share attributable to investors purchasing our common stock in this offering	_____
As adjusted net tangible book value per share as of March 31, 2017 after giving effect to this offering	_____
Dilution per share to investors purchasing our common stock in this offering	\$ _____

The above discussion and table are based 26,685,419 shares outstanding on March 31, 2017, and excludes as of that date:

- 2,897,690 shares of common stock issuable upon exercise of outstanding stock options under our stock incentive plans at a weighted average exercise price of \$7.65 per share;
- 188,890 shares of common stock issuable upon the vesting of unvested restricted stock units under our stock incentive plans; and
- 223,802 additional shares of common stock reserved for future issuance under our stock incentive plans.

To the extent that the warrants offered hereby or the outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

DESCRIPTION OF WARRANTS

The following is a brief summary of the material terms of the Series A Warrants, Series B Warrants and pre-funded Series C Warrants included in this offering and is subject in all respects to the provisions contained in the warrants. The forms of warrants are being filed with a Current Report on Form 8-K and reference is made thereto for a complete description of the warrants.

Series A Warrants

Exercise price. The exercise price per share of common stock purchasable upon exercise of the warrants is \$ _____ per share of common stock being purchased. If we, at any time while the Series A Warrants are outstanding, pay a stock dividend on our common stock or otherwise make a distribution on any class of capital stock that is payable in shares of our common stock, subdivide outstanding shares of our common stock into a larger number of shares or combine the outstanding shares of our common stock into a smaller number of shares, then, the number, class and type of shares available under the Series A Warrants and the exercise price will be correspondingly adjusted to give the holder of the warrants, on exercise for the same aggregate exercise price, the total number, class, and type of shares or other property as the holder would have owned had the warrants been exercised prior to the event and had the holder continued to hold such shares until the event requiring adjustment. The exercise price of the Series A Warrants is subject to full ratchet adjustment in certain circumstances, subject to a floor price of \$0.17 per share. If we fail to timely deliver the shares underlying the warrants, we will be subject to certain buy-in provisions.

Exercisability. Holders may exercise the Series A Warrants beginning on the issuance date and at any time up to the date that is five years from the initial date that the warrants become exercisable.

Cashless exercise. If, at the time a holder exercises its warrant, there is no effective registration statement covering the issuance of the shares underlying the warrant to the holder, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of common shares determined according to a formula set forth in the warrants.

Transferability. The Series A Warrants may be transferred at the option of the warrant holder upon surrender of the warrants with the appropriate instruments of transfer.

Rights as a stockholder. Except by virtue of such holder's ownership of shares of our common stock, the holders of the Series A Warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their warrants.

Company Optional Redemption. If at any time after the issuance date, (i) the closing bid price of our common stock is equal to or greater than \$1.75 per share (as adjusted for stock splits, stock combinations and the like occurring from and after the issuance date) for a period 30 consecutive trading days following the applicable determination date (the 30 consecutive trading days on which the condition in this clause (i) is satisfied are referred to herein as the "Measuring Period"), (ii) no Equity Conditions Failure (as defined in the warrants) have occurred, and (iii) the aggregate dollar trading volume (as reported on Bloomberg Financial Markets) of the common stock on the applicable eligible market for each trading day during the Measuring Period exceeds \$225,000 per day, then we have the right to purchase the entire then-remaining portion of warrants from the holders as set forth below, subject to certain conditions.

Extraordinary transactions. In the event of any extraordinary transaction, and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, the holder will have the right to have the Series A Warrants and all obligations and rights thereunder assumed by the successor or acquiring corporation. In the event of an extraordinary transaction, we or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the extraordinary transaction, an amount of cash equal to the value of the Series A warrants as determined in accordance with the Black Scholes option pricing model and the terms of the warrants.

Limits on exercise of warrants. A holder of a Series A Warrant will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Series A Warrants; provided that at the election of a holder and notice to us such percentage ownership limitation may be increased or decreased to any other percentage, not to exceed 9.99%; provided that any increase will not be effective until the 61st day after such notice is delivered from the holder to us.

Series B Warrants

Exercise price. The exercise price per share of common stock purchasable upon exercise of the warrants is \$ _____ per share of common stock being purchased. If we, at any time while the Series B Warrants are outstanding, pay a stock dividend on our common stock or otherwise make a distribution on any class of capital stock that is payable in shares of our common stock, subdivide outstanding shares of our common stock into a larger number of shares or combine the outstanding shares of our common stock into a smaller number of shares, then, the number, class and type of shares available under the Series B Warrants and the exercise price will be correspondingly adjusted to give the holder of the warrants, on exercise for the same aggregate exercise price, the total number, class, and type of shares or other property as the holder would have owned had the warrants been exercised prior to the event and had the holder continued to hold such shares until the event requiring adjustment. The exercise price of the Series B Warrants is subject to full ratchet adjustment in certain circumstances, subject to a floor price of \$0.17 per share. If we fail to timely deliver the shares underlying the warrants, we will be subject to certain buy-in provisions.

Exercisability. Holders may exercise the Series B Warrants beginning on the issuance date and at any time up to the date that is two years from the initial date that the warrants become exercisable.

Cashless exercise. If, at the time a holder exercises its warrant, there is no effective registration statement covering the issuance of the shares underlying the warrant to the holder, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate

exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of common shares determined according to a formula set forth in the warrants. In addition, in lieu of the cashless exercise described in the immediate preceding sentence, beginning 30 days from the issuance date during the warrant exercisability period, the holder is permitted to effect a cashless exercise of the Series B Warrants (in whole or in part) by having the holder surrendering the warrants to us, together with delivery to us of a duly executed exercise notice, and will receive a Net Number of shares of our common stock purchased upon such exercise. The Net Number is equal to the (i) 200% of the applicable warrant exercise percentage of the initial warrant amount and (ii) the quotient obtained by dividing (A) the difference obtained by subtracting (x) the market price, from (y) the initial exercise price per share of Series B Warrants by (B) the market price.

Transferability. The Series B Warrants may be transferred at the option of the warrant holder upon surrender of the warrants with the appropriate instruments of transfer.

Rights as a stockholder. Except by virtue of such holder's ownership of shares of our common stock, the holders of the Series B Warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their warrants.

Company Optional Redemption . If at any time after the issuance date, (i) the closing bid price of our common stock is equal to or greater than \$1.75 per share (as adjusted for stock splits, stock combinations and the like occurring from and after the issuance date) for a period 30 consecutive trading days following the applicable determination date (the 30 consecutive trading days on which the condition in this clause (i) is satisfied are referred to herein as the "Measuring Period"), (ii) no Equity Conditions Failure (as defined in the warrants) have occurred, and (iii) the aggregate dollar trading volume (as reported on Bloomberg Financial Markets) of the common stock on the applicable eligible market for each trading day during the Measuring Period exceeds \$225,000 per day, then we have the right to purchase the entire then-remaining portion of warrants from the holders as set forth below, subject to certain conditions.

Extraordinary transactions : In the event of any extraordinary transaction, and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, the holder will have the right to have the Series B Warrants and all obligations and rights thereunder assumed by the successor or acquiring corporation. In the event of an extraordinary transaction, we or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the extraordinary transaction, an amount of cash equal to the value of the Series B warrants as determined in accordance with the Black Scholes option pricing model and the terms of the warrants.

Limits on exercise of warrants . A holder of a Series B Warrant will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Series B Warrants; provided that at the election of a holder and notice to us such percentage ownership limitation may be increased or decreased to any other percentage, not to exceed 9.99%; provided that any increase will not be effective until the 61st day after such notice is delivered from the holder to us.

Pre-Funded Series C Warrants

Exercise price. The exercise price per share of common stock purchasable upon exercise of the warrants is \$ _____ per share of common stock being purchased. If we, at any time while the pre-funded Series C warrants are outstanding, pay a stock dividend on our common stock or otherwise make a distribution on any class of capital stock that is payable in shares of our common stock, subdivide outstanding shares of our common stock into a larger number of shares or combine the outstanding shares of our common stock into a smaller number of shares, then, the number, class and type of shares available under the pre-funded Series C warrants and the exercise price will be correspondingly adjusted to give the holder of the warrants, on exercise for the same aggregate exercise price, the total number, class, and type of shares or other property as the holder would have owned had the warrants been exercised prior to the event and had the holder continued to hold such shares until the event requiring adjustment. The exercise price of the pre-funded Series C warrants, except for the nominal exercise price of \$0.001 per share of common stock, will have been pre-funded to the Company and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per share of common stock) shall be required to be paid by the holders to any person to effect any exercise of the pre-funded Series C warrants. The holder shall not be entitled to the return or refund of all, or any portion, of such pre-funded exercise price under any circumstance or for any reason whatsoever, including in the event a pre-funded Series C warrant shall not have been exercised prior to its expiration.

Exercisability . Holders may exercise the pre-funded Series C warrants beginning on the issuance date and at any time up to the date that is five years from the initial date that the warrants become exercisable.

Cashless exercise . If, at the time a holder exercises its warrant, there is no effective registration statement covering the issuance of the shares underlying the warrant to the holder, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of common shares determined according to a formula set forth in the warrants.

Transferability. The pre-funded Series C warrants may be transferred at the option of the warrant holder upon surrender of the warrants with the appropriate instruments of transfer.

Extraordinary transactions. In the event of any extraordinary transaction, and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, the holder will have the right to have the Series A Warrants and all obligations and rights thereunder assumed by the successor or acquiring corporation. In the event of an extraordinary transaction, we or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the extraordinary transaction, an amount of cash equal to the value of the Pre-Funded Series C warrants as determined in accordance with the Black Scholes option pricing model and the terms of the warrants.

Limits on exercise of warrants . A holder of a pre-funded Series C warrant will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded Series C warrants; provided that at the election of a holder and notice to us such percentage ownership limitation may be increased or decreased to any other percentage, not to exceed 9.99%; provided that any increase will not be effective until the 61st day after such notice is delivered from the holder to us.

Rights as a stockholder . Except by virtue of such holder's ownership of shares of our common stock, the holders of the pre-funded Series C warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their warrants.

UNDERWRITING

Laidlaw & Company (UK) Ltd. is acting as the underwriter. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriter, we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, the number of shares of common stock and warrants set forth opposite its name below.

Underwriter	Number of Shares	Number of Series A Warrants	Number of Series B Warrants	Number of Pre-Funded Series C Warrants
Laidlaw & Company (UK) Ltd.				
Total				

Discount, Commissions and Expenses

The underwriter has advised us that it proposes to offer the shares of common stock, pre-funded Series C warrants and accompanying warrants to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of \$ per share and accompanying warrants. After this offering, the public offering price, concession and reallowance to dealers may be changed by the underwriter. No such change shall change the amount proceeds to be received by us as set forth on the cover page of this prospectus supplement. The shares of common stock, pre-funded Series C warrants and accompanying warrants are offered by the underwriter stated herein, subject to receipt and acceptance by them and subject to their right to reject any order in whole or in part. The underwriter has informed us that it does not intend to confirm sales to any accounts over which it exercises discretionary authority.

The following table shows the underwriting discount payable to the underwriter by us in connection with this offering.

	Per Share and Accompanying Warrants	Per Pre-Funded Series C Warrant and Accompanying Warrants	Total
Public Offering Price	\$	\$	\$
Underwriting discount	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

The expenses of the offering, not including the underwriting discount, payable by us are estimated to be \$, which includes up to \$70,000 that we have agreed to reimburse the underwriter for its out-of-pocket expenses, including reasonable fees and disbursements of underwriter's counsel, incurred in connection with this offering. We have agreed to pay the underwriter a non-refundable retainer of \$25,000.

Indemnification

We have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act of 1933, as amended (the "Securities Act"), and liabilities arising from breaches of representations and warranties contained in the underwriting agreement, or to contribute to payments that the underwriter may be required to make in respect of those liabilities.

Lock-up Agreements

The Company has agreed, subject to certain exceptions, for a period of 90 days after the date of the underwriting agreement, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of, directly or indirectly any shares of common stock or any securities convertible into or exchangeable for our common stock either owned as of the date of the underwriting agreement or thereafter acquired without the prior written consent of the underwriter.

The Company's officers, directors and certain shareholders have agreed, subject to limited exceptions, for a period of 90 days after the date of the underwriting agreement, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of, directly or indirectly any shares of common stock or any securities convertible into or exchangeable for our common stock either owned as of the date of the underwriting agreement or thereafter acquired, subject to certain exceptions, without the prior written consent of the underwriter.

The underwriter may, in its sole discretion and at any time or from time to time before the termination of the lock-up period, without notice, release all or any portion of the securities subject to lock-up agreements.

Stabilization, Short Positions and Penalty Bids

In connection with the offering, the underwriter may engage in stabilizing transactions, short sales and purchases to cover positions created by short sales, and penalty bids or purchases for the purpose of pegging, fixing or maintaining the price of the common stock, in accordance with Regulation M under the Exchange Act:

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- A short position involves a sale by the underwriter of shares in excess of the number of shares the underwriter is obligated to purchase in the offering, which creates the syndicate short position. This short position may be either a covered short position or a naked short position. In a covered short position, the number of shares involved in the sales made by the underwriter in excess of the number of shares they are obligated to purchase is not greater than the number of shares that they may purchase by exercising its option to purchase additional shares, if any. In a naked short position, the number of shares involved is greater than the number of shares in its option to purchase additional shares, if any. The underwriter may close out any short position by either exercising its option to purchase additional shares, if any, and/or purchasing shares in the open market. In determining the source of shares to close out the short position, the underwriter will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through its option to purchase additional shares, if any. A naked short position is more likely to be created if the underwriter are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.
- Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions.
- Penalty bids permit the underwriter to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result, the price of the common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on the NASDAQ Capital Market or otherwise and, if commenced, may be discontinued at any time.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriter make any representation that the underwriter will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

A prospectus in electronic format may be made available on the websites maintained by the underwriter or selling group members, if any, participating in the offering. The underwriter may agree to allocate a number of shares of common stock to itself and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriter and selling group members that may make Internet distributions on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriter's websites and any information contained in any other website maintained by the underwriter are not part of this prospectus or the registration statement of which this prospectus forms a part.

Right of First Refusal

If within the 12-month period following the earlier of the consummation of the offering or the termination of the engagement letter between us and the underwriter, the Company will require additional financing or other capital raising transaction (“Subsequent Transactions”) involving a placement agent or financial advisor, the underwriter will have the right to act as our financial advisor and investment banker on such Subsequent Transactions (the “Right of First Refusal”) as the book runner, lead manager, or lead placement agent. The underwriter may exercise the Right of First Refusal within thirty days of the receipt of notice by us (as well as any reasonable requested due diligence of its decision to pursue a Subsequent Transaction). If the underwriter determines to exercise its Right of First Refusal, we agree to retain it under separate cover to advise us in respect to such Subsequent Transaction, subject to the execution of a mutually acceptable separate agreement which shall include terms customary for the type of Subsequent Transaction being sought and compensation to be decided by us and the underwriter at the time of the Subsequent Transaction.

Other Relationships

The underwriter and its affiliates may provide in the future various advisory, investment and commercial banking and other services to us in the ordinary course of business, for which they may receive customary fees and commissions. However, except as disclosed in this prospectus, we have no present arrangements with the underwriter for any further services.

Offer Restrictions Outside the United States

Other than in the United States, no action has been taken by us or the underwriter that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive, or the Relevant Member States, with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, or the Relevant Implementation Date, our securities will not be offered to the public in that Relevant Member State prior to the publication of a prospectus in relation to the securities that has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, an offer of securities may be made to the public in that Relevant Member State at any time:

- to any legal entity that is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the manager for any such offer; or

- in any other circumstances which do not require the publication by the issuer of a prospectus pursuant to Article 3(2) of the Prospectus Directive.

For the purposes of this provision, the expression an “offer of common shares to the public” in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the common shares to be offered so as to enable an investor to decide to purchase or subscribe the common shares, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State. The expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in each Relevant Member State and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

We have not authorized, and do not authorize the making of, any offer of shares through any financial intermediary on our behalf, other than offers made by the underwriter with a view to the final placement of the shares as contemplated by this prospectus. Accordingly, no purchaser of the securities, other than the underwriter, is authorized to make any further offer of the shares on our or the underwriter’s behalf.

United Kingdom

Our securities may not be offered or sold and will not be offered or sold to any persons in the United Kingdom other than persons whose ordinary activities involve acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses and in compliance with all applicable provisions of the Financial Services and Markets Act 2000, or FSMA, with respect to anything done in relation to our securities in, from or otherwise involving the United Kingdom.

In addition, each underwriter:

- has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) to persons who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act of 2000 (Financial Promotion) Order 2005 or in circumstances in which section 21 of FSMA does not apply to us; and
- has complied with, and will comply with all applicable provisions of FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Australia

No prospectus or other disclosure document (as defined in the Corporations Act 2001 (Cth) of Australia, or the Corporations Act) in relation to the securities has been or will be lodged with the Australian Securities & Investments Commission, or the ASIC. This document has not been lodged with ASIC and is only directed to certain categories of exempt persons. Accordingly, if you receive this document in Australia:

- (1) you confirm and warrant that you are either:
 - (a) a “sophisticated investor” under section 708(8)(a) or (b) of the Corporations Act;
 - (b) a “sophisticated investor” under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant’s certificate to us which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made;
 - (c) a person associated with us under section 708(12) of the Corporations Act; or
 - (d) a “professional investor” within the meaning of section 708(11)(a) or (b) of the Corporations Act, and to the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor, associated person or professional investor under the Corporations Act, any offer made to you under this document is void and incapable of acceptance; and

(2) you warrant and agree that you will not offer any of the securities for resale in Australia within 12 months of those securities being issue unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

Hong Kong

The securities may not be offered or sold in Hong Kong by means of any document other than (1) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), (2) to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (3) in other circumstances which do not result in the document being a “prospectus” within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Japan

The securities offered in this prospectus have not been and will not be registered under the Financial Instruments and Exchange Law of Japan. The securities have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to or for the account of any resident of Japan (including any corporation or other entity organized under the laws of Japan), except (i) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law and (ii) in compliance with any other applicable requirements of Japanese law.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the securities may not be circulated or distributed, nor may the securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (1) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (2) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA, or (3) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

- to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than \$200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions specified in Section 275 of the SFA;
- where no consideration is or will be given for the transfer; or
- where the transfer is by operation of law.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or the SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, us, or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of the shares.

Canada

Resale Restrictions

The distribution of our securities in Canada is being made only in the provinces of Ontario, Quebec, Alberta, British Columbia and Manitoba on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in each province where trades of common stock are made. Any resale of the common stock in Canada must be made under applicable securities laws which may vary depending on the relevant jurisdiction, and which may require resales to be made under available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice prior to any resale of the common stock.

Representations of Purchasers

By purchasing securities in Canada and accepting delivery of a purchase confirmation, a purchaser is representing to us and the dealer from whom the purchase confirmation is received that:

the purchaser is entitled under applicable provincial securities laws to purchase the securities without the benefit of a prospectus qualified under those securities laws as it is an “accredited investor” as defined under National Instrument 45-106—Prospectus and Registration Exemptions;

- the purchaser is a “Canadian permitted client” as defined in National Instrument 31-103—Registration Requirements and Exemptions, or as otherwise interpreted and applied by the Canadian Securities Administrators;
- where required by law, the purchaser is purchasing as principal and not as agent;
- the purchaser has reviewed the text above under “—Resale Restrictions”; and

- the purchaser acknowledges and consents to the provision of specified information concerning the purchase of the securities to the regulatory authority that by law is entitled to collect the information, including certain personal information. For purchasers in Ontario, questions about such indirect collection of personal information should be directed to Administrative Support Clerk, Ontario Securities Commission, Suite 1903, Box 55, 20 Queen Street West, Toronto, Ontario M5H 3S8 or on (416) 593-3684.

Rights of Action – Ontario Purchasers

Under Ontario securities legislation, certain purchasers who purchase any securities offered by this prospectus during the period of distribution will have a statutory right of action for damages, or while still the owner of the securities, for rescission against us in the event that this prospectus contain a misrepresentation without regard to whether the purchaser relied on the misrepresentation. The right of action for damages is exercisable not later than the earlier of 180 days from the date the purchaser first had knowledge of the facts giving rise to the cause of action and three years from the date on which payment is made for the securities. The right of action for rescission is exercisable not later than 180 days from the date on which payment is made for the securities. If a purchaser elects to exercise the right of action for rescission, the purchaser will have no right of action for damages against us. In no case will the amount recoverable in any action exceed the price at which the securities were offered to the purchaser and if the purchaser is shown to have purchased the securities with knowledge of the misrepresentation, we will have no liability. In the case of an action for damages, we will not be liable for all or any portion of the damages that are proven to not represent the depreciation in value of the common stock as a result of the misrepresentation relied upon. These rights are in addition to, and without derogation from, any other rights or remedies available at law to an Ontario purchaser. The foregoing is a summary of the rights available to an Ontario purchaser. Ontario purchasers should refer to the complete text of the relevant statutory provisions.

EXPERTS

The financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2016 have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon by Morgan, Lewis & Bockius LLP, Philadelphia, Pennsylvania. The underwriter is being represented in connection with this offering by Sheppard, Mullin, Richter & Hampton LLP, New York, New York.

INFORMATION INCORPORATED BY REFERENCE

This prospectus supplement is part of a registration statement on Form S-3. The Commission allows this filing to “incorporate by reference” information that we previously have filed with the Commission. This means we can disclose important information to you by referring you to other documents that we have filed with the Commission. The information that is incorporated by reference is considered part of this prospectus supplement, and information that we file later will automatically update and may supersede this information. For further information about our company and the securities being offered, you should refer to the registration statement and the following documents that are incorporated by reference:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the Commission on March 31, 2017, as amended on April 28, 2017;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, filed with the Commission on May 9, 2017;
- Our Current Reports on Form 8-K filed with the Commission on February 2, 2017, April 13, 2017 and May 17, 2017, respectively; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed with the Commission on September 3, 1999, as amended by amendments to such registration statement on Form 8-A/A filed with the Commission on September 11, 2002, October 31, 2002, June 30, 2005, January 10, 2008, October 10, 2008 and September 9, 2010.

All documents filed by us subsequent to those listed above with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act following the date of filing of the registration statement of which this prospectus supplement is a part and prior to the termination of the offering, shall be deemed to be incorporated by reference into this prospectus supplement and to be a part hereof from the date of filing of such documents. The information relating to our company contained in this prospectus supplement does not purport to be comprehensive and should be read together with the information contained in the incorporated documents. Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement.

You may request a copy of all documents that are incorporated by reference in this prospectus supplement by writing or telephoning us at the following address and number: Repros Therapeutics Inc., 2408 Timberloch Place, Suite B-7, The Woodlands, Texas, 77380, (281) 719-3400. We will provide copies of all documents requested (not including exhibits to those documents, unless the exhibits are specifically incorporated by reference into those documents or this prospectus supplement) without charge.

PROSPECTUS



**\$100,000,000
Common Stock
Preferred Stock
Warrants
Rights
Units**

From time to time, we may offer and sell, in one or more series:

- shares of common stock;
- shares of preferred stock;
- warrants to purchase, common stock or preferred stock;
- rights to purchase common stock or preferred stock; and
- units consisting of two or more of these classes of securities.

The securities:

- will have a maximum aggregate offering price of \$100,000,000;
- will be offered at prices and on terms to be set forth in an accompanying prospectus supplement;
- may be offered separately or together, or in separate series;
- may be convertible into or exchangeable for other securities; and
- may be listed on a national securities exchange, if specified in an accompanying prospectus supplement.

We may offer and sell these securities to or through underwriters, dealers or agents, directly to purchasers or through a combination of these methods. If we use underwriters, dealers or agents to sell these securities, we will name them and describe their compensation arrangements in the prospectus supplement relating to such offering. We will provide the specific terms of the securities in supplements to this prospectus. This prospectus may be used to offer and sell securities only if it is accompanied by a prospectus supplement.

Our Common Stock is traded on the Nasdaq Capital Market under the symbol "RPRX". On June 13, 2016, the last reported sale price of our common stock on the Nasdaq Capital Market was \$1.70 per share.

YOU SHOULD READ THIS PROSPECTUS AND ANY PROSPECTUS SUPPLEMENT CAREFULLY BEFORE YOU INVEST, INCLUDING THE RISK FACTORS WHICH BEGIN ON PAGE 3 OF THIS PROSPECTUS.

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 June 23, 2016.

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We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying supplement to this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy securities, nor do this prospectus and the accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus supplement is delivered or securities sold on a later date.

ABOUT THIS PROSPECTUS

This document is called a prospectus and is part of a registration statement on Form S-3 that we filed with the SEC using a “shelf” registration process. Under this shelf process, we may offer and sell, from time to time in one or more offerings, the securities described in this prospectus. This prospectus provides you with a general description of the securities we may offer and the general manner in which these securities may be offered. Each time we sell securities under this prospectus, we will provide you with a prospectus supplement that will contain specific information about the terms of that offering and the offered securities. That prospectus supplement may also supplement, update or amend information contained in or incorporated by reference into this prospectus. Under this shelf process, we may sell different types of the securities described in this prospectus in one or more offerings up to a total offering amount of \$100,000,000.

The registration statement of which this prospectus is a part contains additional information about us and the securities we may offer by this prospectus. Specifically, we have filed and incorporated by reference certain legal documents that control the terms of the securities offered by this prospectus as exhibits to the registration statement. We will file or incorporate by reference certain other legal documents that will control the terms of the securities we may offer by this prospectus as exhibits to the registration statement or to reports we file with the SEC that are incorporated by reference into this prospectus. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading “Where You Can Find More Information.”

You should rely only on the information contained in this prospectus, any prospectus supplement and the documents we have incorporated by reference. We have not authorized anyone to provide you with different information. You should assume that the information in this prospectus, any accompanying prospectus supplement or any document incorporated by reference is accurate as of any date other than the date of such document.

FORWARD-LOOKING INFORMATION

Some of the statements contained (i) in this prospectus and any accompanying prospectus supplement or (ii) incorporated by reference into this prospectus are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and are subject to the safe harbor created by the Securities Litigation Reform Act of 1995. Examples of these forward-looking statements include, but are not limited to:

- our anticipated future capital requirements and the terms of any capital financing agreements;
 - timing and amount of future contractual payments, product revenue and operating expenses;
 - the success of clinical trials for Proellex®;
 - having available funding for the continued development of Proellex® and our enclomiphene product candidate;
 - volatility in the financial markets generally;
 - uncertainty related to our ability to obtain approval of our products by the by the Food and Drug Administration, or FDA, and regulatory bodies in other jurisdictions;
 - dependence on a limited number of key employees;
 - uncertainty regarding changes to existing regulations or new regulations;
 - dependence on third parties for clinical development and manufacturing;
 - market acceptance of our products and the estimated potential size of these markets;
 - competition and risk of competitive new products;
 - uncertainty relating to our patent portfolio;
 - volatility in the value of our common stock;
 - continued listing on the Nasdaq Capital Market; and
 - any other risks and uncertainties described in the Company's filings with the Securities and Exchange Commission.
-

While these forward-looking statements made by us are based on our current intent, beliefs and judgments, they are subject to risks and uncertainties that could cause actual results to vary from the projections in the forward-looking statements. You should consider the risks below carefully in addition to other information contained in this report before engaging in any transaction involving our securities. If any of these risks occur, they could seriously harm our business, financial condition or results of operations. In such case, the trading price of our securities could decline, and you may lose all or part of your investment.

In addition, in this prospectus, any prospectus supplement and the documents incorporated by reference into this prospectus, the words “believe,” “should,” “predict,” “future,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “plan,” “expect,” “potential,” “continue,” or “opportunity,” or other words and terms of similar meaning, as they relate to us, our business, future financial or operating performance or our management, are intended to identify forward-looking statements. Any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update or revise any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Past financial or operating performance is not necessarily a reliable indicator of future performance and you should not use our historical performance to anticipate results or future period trends.

SUMMARY

This is only a summary and does not contain all of the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, including the "Risk Factors" section and the information incorporated by reference from our other filings with the SEC.

General

Repros Therapeutics Inc. (the "Company," "Repros," or "we," "us" or "our") was organized on August 20, 1987. We are a biopharmaceutical company focused on the development of new drugs to treat hormonal and reproductive system disorders.

Our enclomiphene product candidate, is a single isomer of clomiphene citrate and is an orally active proprietary small molecule compound. We are developing enclomiphene for the treatment of secondary hypogonadism in overweight men wishing to restore normal testicular function. Men with secondary hypogonadism exhibit low testosterone levels due to under stimulated testes but they are generally fertile. Enclomiphene is designed to treat the underlying mechanism, insufficient stimulation of the testes by the pituitary, which causes secondary hypogonadism. Secondary hypogonadism due to being overweight or obese is the single greatest cause of hypogonadism in general. On February 2, 2015, we announced that we electronically submitted our New Drug Application ("NDA") to the Food and Drug Administration ("FDA") for enclomiphene. The FDA accepted the NDA for review on April 1, 2015 and later assigned a Prescription Drug User Fee Act (PDUFA) goal date of November 30, 2015. In addition, the Division of Bone, Reproductive and Urologic Products (the Division) of the FDA scheduled an advisory committee meeting to review the NDA for November 3, 2015. However, the Division subsequently cancelled the scheduled advisory committee meeting due to questions that arose late in the review regarding the bioanalytical method validation that could affect interpretability of certain pivotal study data. On December 1, 2015, we announced that we had received a Complete Response Letter (CRL) from the FDA. A CRL informs companies that an NDA cannot be approved in its present form. In the CRL, the FDA stated that, based on recent scientific developments, the design of the enclomiphene Phase 3 studies is no longer adequate to demonstrate clinical benefit and recommended that Repros conduct an additional Phase 3 study or studies to support approval in the target population. The FDA also noted concerns regarding study entry criteria, titration and bioanalytical method validation in the Phase 3 program. Subsequently, on February 4, 2016, the Company attended a meeting with the FDA reviewers and senior leaders to discuss resolution of issues identified during the NDA review. The meeting covered a broad range of topics surrounding the NDA data as well as emerging agency and expert thinking regarding the treatment of hypogonadism. The Company believes based on the meeting that the FDA is not closed to considering secondary hypogonadism as an indication. Additionally, in January 2016, the Company initiated a Phase 2 double-blind, placebo controlled, proof of concept study, ZA-205, in obese secondary hypogonadal men to assess the impact of enclomiphene on metabolic parameters and quality of life under a diet and exercise regimen. This study was fully enrolled in February 2016 and six month data is expected in the third quarter of 2016.

Proellex®, our product candidate for female reproductive health, is a new chemical entity that acts as a selective blocker of the progesterone receptor and is being developed for the treatment of symptoms associated with uterine fibroids and endometriosis. On December 29, 2014, we announced that we have initiated two Phase 2B studies for low dose Proellex® in the treatment of uterine fibroids and are currently conducting a Phase 2 study in the treatment of endometriosis. All three of these Proellex® studies were fully enrolled in January 2016. On April 12, 2016, we announced positive clinical data for the vaginal application of Proellex® in women with severe menstrual bleeding due to uterine fibroids. Additionally, on May 18, 2016, we announced that oral administration of Proellex®, at doses of both 6 and 12 mg, achieved significant reduction in excessive menstrual bleeding, the key symptom of uterine fibroids.

As of March 31, 2016, we had accumulated losses of \$307.1 million, approximately \$16.0 million in cash and cash equivalents, and accounts payable and accrued expenses of approximately \$2.1 million, in the aggregate.

Our offices are located at 2408 Timberloch Place, Suite B-7, The Woodlands, Texas 77380. Our phone number is (281) 719-3400 and our website is located at www.reprosrx.com. Information contained on our website is not part of this prospectus.

RISK FACTORS

An investment in the securities offered by this prospectus involves a high degree of risk. Before deciding to invest, you should carefully consider the risks described below and discussed under the section captioned "Risk Factors" contained in our Annual Report on Form 10-K for the year ended December 31, 2015, as amended, and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, which are incorporated by reference in this prospectus, together with the other information in this prospectus, the information and documents incorporated by reference herein, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, the financial condition, results of operations or cash flow could be harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. The risks described below and in the documents referenced above are not the only ones we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business.

Risks Related to our Common Stock

Purchasers in this offering will experience immediate and substantial dilution.

As of March 31, 2016, we had a net tangible book value of \$14.2 million which yields a net tangible book value of approximately \$0.59 per share of common stock, assuming no exercise of any options. The net tangible book value per share is less than the current market price per share. If you pay more than the net tangible book value per share for common stock in this offering, you will experience immediate dilution. See the section titled "Dilution" on page 4 of this prospectus. The exercise of outstanding options will result in further dilution in your investment. In addition, if we issue additional equity securities in the future, the newly issued securities may further dilute your ownership interest.

Certain provisions in our charter documents and Delaware law could delay or prevent a change in management or a takeover attempt that you may consider to be in your best interest.

We have adopted certain anti-takeover provisions in our certificate of incorporation and bylaws and under Delaware law, which could delay or prevent the removal of directors and other management and could make more difficult a merger, tender offer or proxy contest involving us that you may consider to be in your best interest. For example, these provisions:

- allow our board of directors to issue preferred stock without stockholder approval;
- limit who can call a special meeting of stockholders; and
- establish advance notice requirements for nomination for election to the board of directors or for proposing matters to be acted upon at stockholder meetings.

USE OF PROCEEDS

Unless the applicable prospectus supplement states otherwise, the net proceeds we receive from the sale of the securities offered by us under this prospectus will be used for general corporate purposes, including:

- funding clinical trials and regulatory submissions for our enclomiphene product candidate and for Proellex®; and
- general working capital.

Until we use the net proceeds from the sale of the securities offered by us under this prospectus, we intend to invest the funds in short-term, investment grade, interest-bearing securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock and do not currently anticipate declaring or paying cash dividends on our common stock in the foreseeable future. We currently intend to retain all of our future earnings, if any, to finance operations. Any future determination relating to our dividend policy will be made at the discretion of our board of directors and will depend on a number of factors, including future earnings, capital requirements, financial conditions, future prospects, contractual restrictions and other factors that our board of directors may deem relevant.

DILUTION

We will set forth in a prospectus supplement, when applicable, the following information regarding any material dilution of the equity interests of investors purchasing securities in an offering under this prospectus:

- the net tangible book value per share of our equity securities before and after the offering;
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers in the offering; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 75,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share.

As of March 31, 2016, we had 24,318,111 outstanding shares of common stock and no outstanding shares of preferred stock.

As of March 31, 2016, we had outstanding stock options to purchase 2,554,857 shares of common stock at prices ranging from \$0.82 to \$50.80.

Common Stock

Subject to any special voting rights of any series of preferred stock that we may issue in the future, each share of common stock has one vote on all matters voted on by our stockholders, including the election of our directors. Because holders of common stock do not have cumulative voting rights, the holders of a majority of the shares of common stock can elect all of the members of the board of directors standing for election, subject to the rights, powers and preferences of any outstanding series of preferred stock.

No share of common stock affords any preemptive rights or is convertible, redeemable, assessable or entitled to the benefits of any sinking or repurchase fund. Holders of common stock will be entitled to dividends in the amounts and at the times declared by our board of directors in its discretion out of funds legally available for the payment of dividends.

Holders of common stock will share equally in our assets on liquidation after payment or provision for all liabilities and any preferential liquidation rights of any preferred stock then outstanding. All outstanding shares of common stock are fully paid and non-assessable.

Our board of directors may authorize the issuance of preferred stock with voting, conversion, dividend, liquidation and other rights that may adversely affect the rights of the holder of our common stock.

Preferred Stock

Our certificate of incorporation provides that shares of preferred stock may be issued from time to time in one or more series. Our board of directors has authority to issue up to 5,000,000 shares of preferred stock and to determine the price, rights, preferences, privileges and restrictions, including voting rights, of those shares without any further vote or action by our stockholders. The rights of holders of our common stock may be subject to, and adversely affected by, the rights of the holders of any preferred stock that may be issued in the future. The issuance of preferred stock may have the effect of delaying, deferring or preventing a change of control and may adversely affect the voting and other rights of holders of our common stock.

Warrants

We may issue warrants to purchase shares of common stock or preferred stock. Warrants may be issued independently or together with any shares of common stock or preferred stock and may be attached to or separate from such shares of common stock or preferred stock. Each series of warrants may be issued under a separate warrant agreement to be entered into between us and a warrant agent. The applicable prospectus supplement will describe the following terms of any warrants in respect of which this prospectus is being delivered:

- the title of the warrants;
- the price or prices at which the warrants will be issued;
- the periods during which the warrants are exercisable;
- the number of shares of common stock or preferred stock for which each warrant is exercisable;
- the exercise price for the warrants, including any changes to or adjustments in the exercise price;
- if applicable, the date on and after which the warrants and the related common stock or preferred stock will be separately transferable;
- any listing of the warrants on a securities exchange or automated quotation system;
- if applicable, a discussion of material United States federal income tax consequences and other special considerations with respect to any warrants; and
- any other terms of the warrants, including terms, procedures and limitations relating to the transferability, exchange and exercise of such warrants.

Transfer Agent

The transfer agent for our common stock is Computershare Trust Company, N.A.

Anti-Takeover Effects of Our Certificate of Incorporation, Bylaws and Delaware Law

General

Our certificate of incorporation and bylaws contain provisions that are designed in part to make it more difficult and time-consuming for a person to obtain control of our company. The provisions of our certificate of incorporation and bylaws reduce the vulnerability of our company to an unsolicited takeover proposal. These provisions may also have an adverse effect on the ability of stockholders to influence the governance of our company and may result in entrenchment of management. This may adversely affect the liquidity and price of our common stock in certain situations. We have summarized the material terms of our certificate of incorporation and bylaws below. You may read our certificate of incorporation and bylaws in their entirety for the full terms of the rights of holders of our common stock.

Delaware Business Combination Statute

Section 203 of the Delaware General Corporation Law provides that, subject to specified exceptions, an “interested stockholder” of a Delaware corporation may not engage in any “business combination,” including general mergers or consolidations or acquisitions of additional shares of the corporation, with the corporation for a three-year period following the time that such stockholder becomes an interested stockholder unless:

- before such time, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an “interested stockholder,” the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding specified shares; or
- on or after such time, the business combination is approved by the board of directors of the corporation and authorized not by written consent, but at an annual or special meeting of stockholders, by the affirmative vote of at least 66 2/3% of the outstanding voting stock not owned by the interested stockholder.

Under Section 203, the restrictions described above also do not apply to specified business combinations proposed by an interested stockholder following the announcement or notification of a transaction specified in Section 203 and involving the corporation and a person who:

- had not been an interested stockholder during the previous three years; or
- became an interested stockholder with the approval of a majority of the corporation’s directors;
- if such transaction is approved or not opposed by a majority of the directors who were directors prior to any person becoming an interested stockholder during the previous three years or were recommended for election or elected to succeed such directors by a majority of such directors.

Except as otherwise specified in Section 203, an “interested stockholder” is defined to include:

- any person that is the owner of 15% or more of the outstanding voting stock of the corporation, or is an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of the corporation at any time within three years immediately before the date of determination; and
- the affiliates and associates of any such person.

Under some circumstances, Section 203 makes it more difficult for an interested stockholder to effect various business combinations with a corporation for a three-year period.

Advance Notice Requirements for Director Nominations and Other Stockholder Proposals

In order to nominate a director at an annual meeting, our bylaws require that a stockholder follow certain procedures. In order to recommend a nominee for director, a stockholder must be a stockholder of record at the time the stockholder gives notice of its recommendation and the stockholder must be entitled to vote for the election of directors at the meeting at which such nominee will be considered. Stockholder recommendations must be made pursuant to written notice delivered to our principal executive offices no less than 50 days nor more than 75 days prior to the date of the annual or special meeting at which directors are to be elected; provided, that if less than 65 days’ notice or prior public disclosure of the date of the meeting is given or made to the stockholders, notice by the stockholder must be received at our principal executive offices not later than the close of business on the 15th day following the day on which such notice of the date of the meeting was mailed or such public disclosure was made.

The stockholder notice must set forth the following:

1. As to each person the stockholder proposes to nominate for election as a director, all information relating to such person that would be required to be disclosed in solicitations of proxies for the election of such nominees as directors pursuant to rules promulgated under the Exchange Act;

2. The written consent to serve as a director if elected by each person nominated;
3. Name and address of the stockholder as they appear on our books; and
4. The class and number of shares of our common stock beneficially owned by such stockholder.

In addition to complying with the foregoing procedures, any stockholder nominating a director must also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder.

Additionally, with respect to other stockholder proposals, notice of the proposal must be received no less than 50 nor more than 75 days prior to the annual meeting at which such proposal is to be considered; provided, that if less than 65 days' notice or prior public disclosure of the date of the meeting is given or made to the stockholders, notice by the stockholder must be received at our principal executive offices not later than the close of business on the 15th day following the day on which such notice of the date of the annual meeting was mailed or such public disclosure was made.

Authorized But Unissued Shares

Our authorized but unissued shares of common stock and preferred stock are available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

DESCRIPTION OF RIGHTS

We may issue rights to purchase shares of preferred stock or common stock that are being registered hereunder. These rights may be issued independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the rights in such offering. In connection with any offering of such rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

Each series of rights will be issued under a separate rights agreement which we will enter into with a bank or trust company, as rights agent, all as set forth in the applicable prospectus supplement. The rights agent will act solely as our agent in connection with the certificates relating to the rights and will not assume any obligation or relationship of agency or trust with any holders of rights certificates or beneficial owners of rights. We will file the rights agreement and the rights certificates relating to each series of rights with the Securities and Exchange Commission, and incorporate them by reference as an exhibit to the registration statement of which this prospectus is a part on or before the time we issue a series of rights.

The applicable prospectus supplement will describe the specific terms of any offering of rights for which this prospectus is being delivered, including the following:

- the date of determining the stockholders entitled to the rights distribution;
- the number of rights issued or to be issued to each stockholder;
- the exercise price payable for each share of preferred stock, common stock or other securities upon the exercise of the rights;
- the number and terms of the shares of preferred stock, common stock or other securities which may be purchased per each right;
- the extent to which the rights are transferable;
- the date on which the holder's ability to exercise the rights shall commence, and the date on which the rights shall expire;
- the extent to which the rights may include an over-subscription privilege with respect to unsubscribed securities;
- if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of such rights; and

- any other terms of the rights, including the terms, procedures, conditions and limitations relating to the exchange and exercise of the rights.

The description in the applicable prospectus supplement of any rights that we may offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable rights certificate, which will be filed with the Securities and Exchange Commission.

DESCRIPTION OF UNITS

As specified in the applicable prospectus supplement, we may issue units consisting of one or more shares of common stock, shares of preferred stock, or warrants or any combination of such securities.

The applicable prospectus supplement will specify the following terms of any units in respect of which this prospectus is being delivered:

- the terms of the units and of the common stock, preferred stock, and warrants comprising the units, including whether and under what circumstances the securities comprising the units may be traded separately;
- a description of the terms of any unit agreement governing the units;
- a description of the provisions for the payment, settlement, transfer or exchange of the units;
- any material United States federal income tax consequences; and
- how, for United States federal income tax purposes, the purchase price paid for the units is to be allocated among the component securities.

PLAN OF DISTRIBUTION

We are registering securities which may be sold from time to time after the date of this prospectus. We may sell the securities through underwriters or dealers, through agents, or directly to one or more purchasers. The securities may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. One or more prospectus supplements will describe the terms of the offering of the securities, including:

- the name or names of any agents or underwriters;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the common stock or other securities may be listed.

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

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all the securities offered by the prospectus supplement if they are to purchase any of such offered shares. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement naming the underwriter, the nature of any such relationship.

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

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

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

Any underwriter may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Securities Exchange Act of 1934. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying securities so long as the stabilizing bids do not exceed a specified maximum price. Short covering transactions involve exercise by underwriters of an over-allotment option or purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a short covering transaction. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

Our common stock is quoted on the Nasdaq Capital Market. One or more underwriters may make a market in our common stock or other securities, but the underwriters will not be obligated to do so and may discontinue market making at any time without notice. We cannot give any assurance as to liquidity of the trading market for our common stock or other securities.

Any underwriters who are qualified market makers on the Nasdaq Capital Market may engage in passive market making transactions in the securities on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M under the Securities Exchange Act of 1934, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities being offered by this prospectus will be passed upon for us by Morgan, Lewis & Bockius LLP, and for any underwriters or agents by counsel named in the applicable prospectus supplement.

EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2015, as amended, have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are required to file annual, quarterly and current reports, and other information with the SEC. You may read and copy any document which we have filed at the SEC's public reference room at:

Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549

Please call the SEC at 1-800-SEC-0330 for more information on the operation of the public reference room. Copies of our SEC filings are also available to the public from the SEC's web site at www.sec.gov.

Documents filed by us pursuant to the Securities Exchange Act may be reviewed and/or obtained through the SEC's Electronic Data Gathering Analysis and Retrieval System, which is publicly available through the SEC's web site (www.sec.gov).

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the reports or documents that have been incorporated by reference in the prospectus contained in the registration statement of which this prospectus is a part but not delivered with this prospectus. We will provide those reports and documents upon written or oral request and at no cost to the requester. Requests for reports or documents should be submitted to the company at the following address or telephone number:

Repros Therapeutics Inc.
2408 Timberloch Place, Suite B-7
The Woodlands, Texas 77380
(281) 719-3400

Each of the reports and documents may also be accessed through our website which is located at www.reprosrx.com.

This prospectus is part of a registration statement that we have filed with the SEC relating to the securities offered hereby. As permitted by SEC rules, this prospectus does not contain all of the information we have included in the registration statement and the accompanying exhibits and schedules we file with the SEC. You may refer to the registration statement, exhibits and schedules for more information about us and such securities. The registration statement, exhibits and schedules are available at the SEC's public reference room or through its Internet website.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this Prospectus, which means that we can disclose important information to you by referring you to another document or report filed separately with the SEC. The information incorporated by reference is deemed to be a part of this prospectus, except to the extent any information is superseded by this prospectus. The following documents which have been filed by us with the SEC and contain important information about us are incorporated into this prospectus:

- Repros' Annual Report on Form 10-K for the year ended December 31, 2015 filed with the SEC on March 14, 2016, as amended by Amendment No. 1 thereto filed with the SEC on April 29, 2016;
- Repros' Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 filed with the SEC on May 10, 2016;
- Repros' Current Reports on Form 8-K filed with the SEC on January 4, 2016, January 6, 2016 and May 16, 2016;
- Repros' Definitive Proxy Statement for its 2016 annual meeting of stockholders, filed with the SEC on May 24, 2016; and
- The description of Repros' common stock contained in Repros' Registration Statement on Form 8-A filed on September 3, 1999, as amended by amendments to such registration statement on Form 8-A/A filed on September 11, 2002, October 31, 2002, June 30, 2005, January 10, 2008, October 10, 2008 and September 9, 2010.

Notwithstanding the foregoing, information that we elect to furnish, but not file, or have furnished, but not filed, with the SEC in accordance with SEC rules and regulations is not incorporated into the registration statement or this prospectus and does not constitute a part hereof.

All documents filed by Repros pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding any information furnished to the SEC) subsequent to the date of this filing and prior to the termination of this offering shall be deemed to be incorporated in this Prospectus and to be a part hereof from the date of the filing of such document. Any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus .

Repros Therapeutics Inc.

	Shares of Common Stock
Series A Warrants to Purchase	Shares of Common Stock
Series B Warrants to Purchase	Shares of Common Stock
Pre-Funded Series C Warrants to Purchase up to	Shares of Common Stock
Shares of Common Stock underlying the Pre-Funded Series C Warrants	

PROSPECTUS SUPPLEMENT
May , 2017

Laidlaw & Company (UK) Ltd.
