

Recro Pharma, Inc.
Form S-3/A
March 07, 2019
Table of Contents

As filed with the Securities and Exchange Commission March 6, 2019

Registration Statement No. 333-229734

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Amendment No. 1

to

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

RECRO PHARMA, INC.

(Exact name of registrant as specified in its charter)

Pennsylvania
(State or other jurisdiction of
incorporation or organization)

26-1523233
(I.R.S. Employer
Identification No.)

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490 Lapp Road

Malvern, PA 19355

(484) 395-2400

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Gerri A. Henwood

President and Chief Executive Officer

Recro Pharma, Inc.

490 Lapp Rd

Malvern, PA 19355

(484) 395-2400

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Rachael M. Bushey, Esq.

Pepper Hamilton LLP

3000 Two Logan Square

Eighteenth and Arch Streets

Philadelphia, PA 19103

(215) 981-4331

Approximate date of commencement of proposed sale to the public: From time to time on or after the effective date of this Registration Statement.

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If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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

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

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

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Table of Contents

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

| | |
|-------------------------|---------------------------|
| Large accelerated filer | Accelerated filer |
| Non-accelerated filer | Smaller reporting company |
| | Emerging Growth company |

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

CALCULATION OF REGISTRATION FEE

| Title of Securities to be Registered | Proposed | | Proposed Maximum Aggregate Offering Price(3) | Amount of Registration Fee(4) |
|--|-------------------------------------|---|--|----------------------------------|
| | Amount to be Registered(1)(2) | Maximum Offering Price Per Share(3) | | |
| Primary Offering | | | | |
| Common Stock, par value \$0.01 per share | | | | |
| Preferred Stock, par value \$0.01 per share | | | | |
| Warrants | | | | |
| Debt Securities | | | | |
| Units | | | | |
| Subscription Rights | | | | |
| Primary Offering Total | | | \$100,000,000.00(4) | \$12,120.00 |
| Secondary Offering | | | | |
| Common Stock, par value \$0.01 per share, underlying warrants(5) | 348,664(6) | \$8.53 | \$2,974,103.92 | \$360.46 |
| Warrants | 348,664(6) | | | (7) |
| Secondary Offering Total | 348,664 | \$8.53 | \$2,974,103.92 | \$360.46 |
| Total Registration Fee | | | | \$12,480.46(8) |

(1)

With respect to the primary offering, not specified as to each class of security to be registered pursuant to General Instruction II.D. of Form S-3 under the Securities Act of 1933, as amended, or Securities Act.

- (2) With respect to the primary offering, there are being registered hereunder an indeterminate number of securities of each identified class as may be issued from time to time at indeterminate prices, as well as an indeterminate number of shares of common stock and preferred stock as may be issued upon conversion, exercise or exchange of any of the securities issued directly under this registration statement. No separate consideration is payable for any shares of common stock and preferred stock so issued upon conversion, exercise or exchange. Securities registered hereby may be sold separately, together or in units with other securities registered hereby.
- (3) With respect to the primary offering, the proposed maximum offering price per security and the proposed maximum aggregate offering price per class of security will be determined from time to time by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder and is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act. The aggregate maximum offering price of all securities issued pursuant to this registration statement will not exceed \$100,000,000.
- (4) The proposed maximum aggregate offering price has been estimated solely for the purpose of calculating the registration fee pursuant to (i) Rule 457(o) under the Securities Act with respect to the primary offering, and (ii) Rule 457(c) under the Securities Act with respect to the secondary offering, based upon the average of the high and low reported sale prices of the common stock on The NASDAQ Capital Market on February 15, 2019.
- (5) The shares being registered hereunder for the secondary offering consist of 348,664 shares of common stock that may be acquired upon exercise of warrants, which shares of common stock may be sold from time to time by the selling securityholders.
- (6) Represents shares of common stock that may be issued upon the exercise of warrants, subject to customary anti-dilution protection. In the event of a stock split, stock dividend or similar transaction involving common stock of the registrant, in order to prevent dilution, the number of shares shall be automatically increased to cover the additional shares in accordance with Rule 416 under the Securities Act.
- (7) Pursuant to the final sentence of Rule 457(g) under the Securities Act, no separate registration fee is required for warrants registered in the same registration statement as the shares of common stock offered pursuant thereto.
- (8) The registration fee of \$12,480.46 has been previously paid with this Registration Statement.

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

Table of Contents

The information in this prospectus is not complete and may be changed. Neither we nor the selling securityholders may sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject To Completion, Dated March 6, 2019

PROSPECTUS

\$100,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

Units

Subscription Rights

Offered by the Company

348,664 Warrants

348,664 Shares of Common Stock

Offered by Selling Securityholders

We may offer to the public from time to time in one or more series or offerings:

shares of our common stock, par value \$0.01 per share;

shares of preferred stock, par value \$0.01 per share;

warrants to purchase shares of our common stock, preferred stock and/or debt securities;

debt securities consisting of debentures, notes or other evidences of indebtedness;

units consisting of a combination of the foregoing securities;

subscription rights to purchase any of the foregoing securities; or

any combination of these securities.

We may offer and sell up to \$100,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides a general description of the securities that we may offer. Each time that we offer securities under this prospectus, we will provide the specific terms of the securities offered, including the public offering price, in a supplement to this prospectus. Any prospectus supplement may add to, update or change information contained in this prospectus. You should carefully read this prospectus and any applicable prospectus supplement together with additional information described under the heading **Where You Can Find More Information** before you make your investment decision.

In addition, the selling securityholders identified in this prospectus, and any of their respective pledgees, donees, transferees or other successors in interest, may offer and sell up to (i) 348,664 warrants, or the Warrants, and (ii) 348,664 shares of our common stock issuable upon the exercise of the Warrants, subject to adjustment for customary anti-dilution protections, from time to time under this prospectus. We will not receive any of the proceeds from the sale of Warrants or shares of our common stock by the selling securityholders.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled **About this Prospectus** and **Plan of Distribution** for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

The selling securityholders identified in this prospectus, or their permitted transferees or other successors-in-interest, may offer the Warrants or shares of our common stock from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices, or at privately negotiated prices. We provide additional information about how the selling securityholders may sell their Warrants and shares of common stock in the section entitled **Plan of Distribution** beginning on page 30 of this prospectus. We will not be paying any underwriting discounts or selling commissions in connection with any offering of Warrants or common stock by the selling securityholders under this prospectus.

Our common stock trades on the NASDAQ Capital Market, or NASDAQ, under the ticker symbol **REPH**. On March 5, 2019, the last reported sale price per share of our common stock was \$9.56 per share.

We are an emerging growth company as defined under the federal securities laws and, as such, have elected to comply with certain reduced public company reporting requirements.

Table of Contents

TABLE OF CONTENTS

| | Page |
|---|-------------|
| <u>ABOUT THIS PROSPECTUS</u> | 1 |
| <u>INCORPORATION BY REFERENCE</u> | 2 |
| <u>WHERE YOU CAN FIND MORE INFORMATION</u> | 2 |
| <u>FORWARD-LOOKING STATEMENTS</u> | 3 |
| <u>SUMMARY</u> | 5 |
| <u>RISK FACTORS</u> | 7 |
| <u>USE OF PROCEEDS</u> | 10 |
| <u>GENERAL DESCRIPTION OF OUR SECURITIES</u> | 11 |
| <u>DESCRIPTION OF OUR CAPITAL STOCK</u> | 11 |
| <u>DESCRIPTION OF OUR DEBT SECURITIES</u> | 14 |
| <u>DESCRIPTION OF OUR WARRANTS</u> | 22 |
| <u>DESCRIPTION OF OUR UNITS</u> | 23 |
| <u>DESCRIPTION OF OUR SUBSCRIPTION RIGHTS</u> | 24 |
| <u>GLOBAL SECURITIES</u> | 24 |
| <u>SELLING SECURITYHOLDERS</u> | 28 |
| <u>PLAN OF DISTRIBUTION</u> | 30 |
| <u>LEGAL MATTERS</u> | 33 |
| <u>EXPERTS</u> | 33 |

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf registration process, we may offer to sell any of the securities, or any combination of the securities, described in this prospectus, in each case in one or more offerings, up to a total dollar amount of \$100,000,000. In addition, the selling securityholders may from time to time sell up to an aggregate amount of 348,664 warrants and 348,664 shares of our common stock, subject to customary anti-dilution protections, issuable upon exercise of warrants in one or more offerings.

This prospectus provides you only with a general description of the securities that we may offer. Each time we or the selling securityholders sell securities under the shelf registration statement, we or the selling securityholders will (to the extent required) provide a prospectus supplement or free writing prospectus that will contain specific information about the terms of those securities and the terms of that offering. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement or free writing prospectus, including all documents incorporated by reference herein and therein, together with the additional information described under **Where You Can Find More Information** below.

The registration statement that contains this prospectus, including the exhibits to the registration statement and the information incorporated by reference, contains additional information about the securities offered under this prospectus. That registration statement can be read at the SEC website mentioned below under the heading **Where You Can Find More Information**. You should read the exhibits carefully for provisions that may be important to you.

Neither we nor the selling securityholders have authorized any dealer, agent or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and any accompanying prospectus supplement or free writing prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or an accompanying prospectus supplement or free writing prospectus. This prospectus and the accompanying prospectus supplement or free writing prospectus, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the accompanying prospectus supplement or free writing prospectus, if any, 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 or free writing prospectus, if any, is accurate on any date subsequent to the date set forth on the front of such 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 or free writing prospectus is delivered or securities are sold on a later date.

Solely for convenience, tradenames referred to in this prospectus, the accompanying prospectus and the documents incorporated by reference appear without the ® or ™ symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these tradenames.

References in this prospectus to the terms **the Company**, **Recro**, **we**, **our** and **us** or other similar terms mean Recro Pharma, Inc. and our wholly owned subsidiary, unless we state otherwise or the context indicates otherwise. References to the **selling securityholders** refer to the shareholders listed herein under the heading **Selling securityholders** and their respective pledgees, donees, permitted transferees, assignees, successors and others who later come to hold any of the selling securityholders' interests in our securities other than through a public sale. When we

refer to you, we mean the potential holders of the applicable series of securities.

Table of Contents

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC:

our Annual Report on Form 10-K for the year ended December 31, 2018, filed on February 19, 2019 (including the portions of our proxy statement for our 2019 annual meeting of shareholders incorporated by reference therein);

our Current Reports on Form 8-K (other than portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits accompanying such reports that are related to such items) filed on January 4, 2019, January 7, 2019, February 14, 2019 (as amended by Form 8-K/A filed on March 6, 2019), February 19, 2019 and March 4, 2019;

The description of our common stock contained in our registration statement on Form 8-A filed on March 4, 2014 (File No. 001-36329) with the SEC, including any amendment or report filed for the purpose of updating such description;

In addition, all documents that we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of such registration statement and all such documents that we file with the SEC after the date of this prospectus and before the termination of the offering of our securities shall be deemed incorporated by reference into this prospectus and to be a part of this prospectus from the respective dates of filing such documents.

Any statement contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document that also is or is deemed to be incorporated by reference in this prospectus 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.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by contacting: Susan Kim, Argot Partners, 767 Third Avenue, 29th Floor, New York, NY 10017, (212) 600-1902, email address: susan@argotpartners.com. In addition, copies of any or all of the documents incorporated herein by reference may be accessed at our website at <http://www.recropharma.com>. The information on such website is not incorporated by reference and is not a part of this prospectus.

WHERE YOU CAN FIND MORE INFORMATION

The SEC maintains an Internet website at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. You may access the registration

statement, of which this prospectus forms a part, at the SEC's Internet website. Our reports on Forms 10-K, 10-Q and 8-K, and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act, are also available for download, free of charge, as soon as reasonably practicable after these reports are filed with the SEC, at our website at <http://www.recropharma.com>. The content contained in, or that can be accessed through, our website is not a part of this prospectus.

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain, and any prospectus supplement and the documents incorporated therein may contain, forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this prospectus, any prospectus supplement or the documents incorporated herein and therein by reference regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words anticipate, believe, estimate, expect, intend, may, plan, predict, would or the negative of such terms and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Such statements are based on assumptions and expectations that may not be realized and are inherently subject to risks, uncertainties and other factors, many of which cannot be predicted with accuracy and some of which might not even be anticipated.

Any forward-looking statements should be considered in light of the risks and uncertainties referred to in this prospectus and our Annual Report on Form 10-K for the year ended December 31, 2018 and subsequent filings with the SEC that are incorporated by reference in this prospectus. Any forward-looking statements represent our estimates only as of the date this prospectus is filed with the SEC and should not be relied upon as representing estimates as of any subsequent date. We do not assume any obligation to update any forward-looking statements. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise. The forward-looking statements in this prospectus and the documents incorporated herein by reference include, among other things, statements about:

- our ability to resolve the deficiencies identified by the Food and Drug Administration, or FDA, in the complete response letter, or CRL, for intravenous, or IV, meloxicam;
- whether the FDA will approve our amended New Drug Application, or NDA, for IV meloxicam and, if approved, the labeling under any such approval that we may obtain;
- if the FDA does not approve our amended NDA, the time frame otherwise associated with resolving the deficiencies identified by the FDA in the CRL and whether the FDA will require additional clinical studies to support the approval of IV meloxicam and the time and cost of such studies;
- our ability to successfully commercialize IV meloxicam or our other product candidates, upon regulatory approval;
- our ability to generate sales and other revenues from IV meloxicam or any of our other product candidates, once approved, including setting an acceptable price for and obtaining adequate coverage and reimbursement of such products;
- the results, timing and outcome of our clinical trials of IV meloxicam or our other product candidates, and any future clinical and preclinical studies;
- our ability to raise future financing and attain profitability for continued development of our business and our product candidates and to meet required debt payments, and any milestone payments owing to Alkermes plc, or Alkermes, or our other licensing and collaboration partners;
- our ability to comply with the regulatory schemes applicable to our business and other regulatory developments in the United States and foreign countries;
- our ability to operate under increased leverage and associated lending covenants;
- the performance of third-parties upon which we depend, including third-party contract research organizations, or CROs, and third-party suppliers, manufacturers, group purchasing organizations, distributors and logistics providers;
- our ability to obtain and maintain patent protection and defend our intellectual property rights against third-parties;
- our ability to maintain our relationships, profitability and contracts with our key commercial partners;

our ability to defend the securities class action lawsuit filed against us, or any future material litigation filed against us;
our ability to recruit or retain key scientific, technical, commercial, and management personnel or to retain our executive officers;

Table of Contents

our ability to comply with stringent U.S. and foreign government regulation in the manufacture of pharmaceutical products, including Good Manufacturing Practice, or cGMP, compliance and U.S. Drug Enforcement Agency, or DEA, compliance and other relevant regulatory authorities; and the effects of changes in our effective tax rate due to changes in the mix of earnings in countries with differing statutory tax rates, changes in tax strategy, changes in the valuation of deferred tax assets and liabilities and changes in the tax laws.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly under Risk Factors, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, collaborations or investments we may make.

You should read this prospectus, any prospectus supplement and the documents that we incorporate by reference herein and therein completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements.

Table of Contents

SUMMARY

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, any applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading **Risk Factors** contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

RECRO PHARMA, INC.

Overview

We are a specialty pharmaceutical company that operates through two business segments: an Acute Care segment and a revenue-generating contract development and manufacturing, or CDMO segment, through which we operate a revenue generating manufacturing business in Gainesville, Georgia. We believe that we can bring valuable therapeutic options for patients, prescribers and payers, such as our lead product candidate, injectable meloxicam, to the hospital and related acute care markets. We believe we can create value for our shareholders through the development, registration and commercialization of injectable meloxicam and our other pipeline product candidates, as well as through the ongoing contributions of our cash-flow positive CDMO segment. In addition to our pipeline, we continue to evaluate acquisition, out-licensing and in-licensing opportunities.

Acute Care

Our Acute Care segment is primarily focused on developing and commercializing innovative products for hospital and related acute care settings. Our lead product candidate is a proprietary injectable form of meloxicam, a long-acting preferential COX-2 inhibitor. IV meloxicam has successfully completed three Phase III clinical trials, including two pivotal efficacy trials, a large double-blind Phase III safety trial and other safety studies for the management of moderate to severe pain. Overall, the total new drug application, or NDA, program included over 1,400 patients. In July 2017, we submitted an NDA to the Food and Drug Administration, or FDA, for IV meloxicam for the management of moderate to severe pain. In May 2018, we received a Complete Response Letter, or CRL, from the FDA regarding our NDA for IV meloxicam. In July 2018, we had a Type A End-of-Review meeting with the FDA to discuss the topics covered in the CRL. In September 2018, we resubmitted the NDA for IV meloxicam and the FDA has set a date for decision on the NDA under the Prescription Drug User Fee Act, or PDUFA, of March 24, 2019. We believe that IV meloxicam compares favorably to competitive therapies in onset of pain relief, duration of pain relief, extent of pain relief and time to peak analgesic effect as well as that it has been well tolerated. We believe injectable meloxicam, as a non-opioid product, will overcome many of the issues associated with commonly prescribed opioid therapeutics, including respiratory depression, excessive nausea and vomiting, constipation, as well having no addiction potential, while maintaining analgesic, or pain relieving, effects. We are pursuing a Section 505(b)(2) regulatory strategy for IV meloxicam.

Our pipeline also includes other early-stage product candidates, including two novel neuromuscular blocking agents, or NMBAs, and a related proprietary chemical reversal agent and Dex-IN, a proprietary intranasal formulation of dexmedetomidine, or Dex, an alpha-2 adrenergic agonist that we are evaluating for possible partnering.

Table of Contents

CDMO

Our CDMO segment leverages formulation expertise to develop and manufacture pharmaceutical products using proprietary delivery technologies and know-how for partners who plan to develop and commercialize these products. These collaborations result in revenue streams including manufacturing, royalties, profit sharing, and research and development, which support continued operations for our CDMO segment and have contributed excess cash flow to be used for activities in our Acute Care segment. We operate a 97,000 square foot, DEA-licensed manufacturing facility and a 24,000 square foot development and high potency facility, each in Gainesville, Georgia. We currently manufacture the following key products with our commercial partners: Ritalin LA[®], Focalin XR[®], Verelan PM[®], Verelan SR[®], Verapamil PM, Verapamil SR and Zohydro ER[®], as well as supporting multiple development stage products.

Corporate Information

Our principal executive offices are located at 490 Lapp Road, Malvern, PA 19355, and our telephone number is (484) 395-2470. Our website address is *www.recropharma.com*. The information contained in, or accessible through, our website does not constitute part of this prospectus. We make available free of charge on our website our annual, quarterly and current reports, including amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC. Information contained on our website is not incorporated by reference into this prospectus or the accompanying prospectus supplement or free writing prospectus, and you should not consider information contained on our website as part of this prospectus or the accompanying prospectus supplement or free writing prospectus.

Implications of Being an Emerging Growth Company

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We will remain an emerging growth company until the earlier of (1) December 31, 2019 or (2) the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt securities.

For as long as we remain an emerging growth company, we may take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation and financial statements in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote to approve executive compensation and shareholder approval of any golden parachute payments not previously approved. We will take advantage of these reporting exemptions until we are no longer an emerging growth company.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have irrevocably elected not to avail ourselves of this exemption and, therefore, we are subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Table of Contents

RISK FACTORS

Investment in any securities offered by this prospectus and the applicable prospectus supplement involves risk. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K, and any subsequent Quarterly Reports on Form 10-Q, Annual Reports on Form 10-K, or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement and any applicable free writing prospectus before acquiring any of such securities. Each of the risks described in these sections and documents could materially and adversely affect our business, financial condition, results of operations and prospects, and could result in a partial or complete loss of your investment.

Risks Related to the Warrants Offered by the Selling Securityholders

A substantial number of shares of common stock may be sold in the market at any point, which may depress the market price for our common stock.

Sales of a substantial number of shares of our common stock in the public market, either by us, the selling securityholders or by our current shareholders, or the perception that these sales could occur, could cause a decline in the market price of our securities. Such sales, along with any other market transactions, could adversely affect the market price of our common stock. Our outstanding shares of common stock may be freely sold in the public market at any time to the extent permitted by Rules 144 and 701 under the Securities Act or to the extent such shares have already been registered under the Securities Act and are held by non-affiliates of ours.

As of March 5, 2019, there were 21,944,169 shares of our common stock outstanding. In addition, as of March 5, 2019, there were approximately 6,388,432 shares subject to outstanding options and restricted stock unit awards or that are otherwise issuable under our equity compensation plans, all of which shares we have registered under the Securities Act on a registration statement on Form S-8. The registered shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates, to the extent applicable. The shares of our common stock issued upon exercise of the warrants and which are included in the registration statement of which this prospectus forms a part may be resold in the public market following effectiveness of the registration statement.

The warrants are a risky investment, and may expire as worthless.

The Warrants are exercisable only until November 17, 2024. While our common stock price was above the \$6.84 exercise price of the Warrants as of March 5, 2019, there can be no assurance that the market price of our common stock will continue to exceed the exercise price of the Warrants. In the event our common stock price is less than the exercise price of the Warrants during the period when the Warrants are exercisable, you may not be able to recover the value of your investment in the Warrants. If the Warrants are not exercised at a time when our common stock price is above the exercise price of the Warrants, the Warrants may not have any value and may expire without being exercised, in which case you would lose your entire investment.

There is no established trading market for the Warrants and, as a result, you may not be able to sell them at the particular time you select, at the price that it originally paid or at all.

There is no established trading market for the Warrants. Moreover, we do not intend to apply to have the Warrants listed on any securities exchange or included in any automated quotation system. As a result, we cannot assure you that you will be able to sell any Warrants at the particular time you select, at the price that you originally paid or at all.

We also cannot assure you as to the liquidity of any market that may develop for the Warrants. Future trading prices and the liquidity of any market for the Warrants, to the extent such a market ever develops, will depend on many factors, including our financial condition and results of operations, the interest of securities dealers in making a market for the Warrants and the market for similar securities.

Table of Contents

Since the Warrants are executory contracts, they may have no value in a bankruptcy or reorganization proceeding.

In the event a bankruptcy or reorganization proceeding is commenced by or against us, a bankruptcy court may hold that any unexercised Warrants are executory contracts that are subject to rejection by us with the approval of the bankruptcy court. As a result, holders of the Warrants may, even if we have sufficient funds, not be entitled to receive any consideration for their Warrants or may receive an amount less than they would be entitled to if they had exercised their Warrants prior to the commencement of any such bankruptcy or reorganization proceeding.

The market price of the Warrants will be directly affected by the market price of our common stock, which has been and may continue to be volatile.

To the extent a secondary market develops for the Warrants, the market price of our common stock will significantly affect the market price of the Warrants. This may result in greater volatility in the market price of the Warrants than would be expected for warrants to purchase securities other than common stock. The market price for our common stock has been volatile and may continue to fluctuate or may decline significantly in the future. Some of the factors that could negatively affect our share price or result in fluctuations in the price or trading volume of our common stock, which, in turn, may cause the market price for the Warrants to decline, include, among other things:

our ability to resolve the deficiencies identified by the FDA in the CRL for IV meloxicam and obtain regulatory approval of IV meloxicam;

the approved labeling for IV meloxicam, if any;

our ability to successfully commercialize IV meloxicam, if approved;

FDA, state or international regulatory actions, including actions on regulatory applications for any of our product candidates;

legislative or regulatory changes;

judicial pronouncements interpreting laws and regulations;

changes in government programs;

announcements of new products, services or technologies, commercial relationships, acquisitions or other events by us or our competitors;

market conditions in the pharmaceutical and biotechnology sectors;

fluctuations in stock market prices and trading volumes of similar companies;

changes in accounting principles;

litigation or public concern about the safety of our product candidates or similar product candidates;

sales of large blocks of our common stock, including sales by our executive officers, directors and significant shareholders

our announcement of financing transactions, including , debt, convertible notes, etc.;

actions by institutional or activist shareholders; and

our discontinuance, licensing or sale of any asset or segment of our business.

The price of our common stock also could be affected by possible sales of common stock by investors who view the Warrants as a more attractive means of equity participation in us and by hedging or arbitrage activity involving our common stock. The hedging or arbitrage of our common stock could, in turn, affect the market price of the Warrants.

Table of Contents

Holders of the Warrants will have no rights as common stockholders until they acquire our common stock.

Until you acquire shares of our common stock upon exercise of your Warrants, you will have no rights with respect to our common stock, including rights to dividend payments or payments upon the liquidation, dissolution or winding up of the Company, voting rights or the right to respond to tender offers. Upon exercise of your Warrants, you will have the right to receive the distributions made prior to the exercise of the Warrants, which will be held by us in escrow until such exercise. Following exercise of your Warrants, you will be entitled to exercise the rights of a common stockholder as to matters for which the record date occurs after the exercise date.

The exercise price of, and the number of shares of our common stock underlying, the Warrants may not be adjusted for all dilutive events.

The exercise price of and the number of shares of our common stock underlying the Warrants are subject to adjustment for certain events, including, but not limited to, the issuance of stock dividends on our common stock, the issuance of certain securities, rights or warrants, indebtedness or assets, certain cash dividends and certain issuer tender or exchange offers. The exercise price will not be adjusted, however, for other events, such as a third-party tender or exchange offer, that may adversely affect the market price of the Warrants or our common stock. Other events that adversely affect the value of the Warrants may occur that do not result in an adjustment to such exercise price.

Risks Related to Investing in Our Capital Stock

Our Third Amended and Restated Bylaws include an exclusive forum provision that could limit our shareholders ability to obtain a judicial forum viewed by the shareholders as more favorable for disputes with us or our directors, officers or other employees.

Our Third Amended and Restated Bylaws provide that, unless we consent in writing to the selection of an alternative forum, a state or federal court located within the County of Chester in the Commonwealth of Pennsylvania will be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of our company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees or our shareholders, (iii) any action asserting a claim arising pursuant to any provision of the Pennsylvania Business Corporation Law of 1988, or PBCL, or (iv) any action asserting a claim peculiar to the relationships among or between our company and our officers, directors and shareholders. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our bylaws described above. This choice of forum provision may limit a shareholder's ability to bring a claim in a judicial forum that it finds favorable for the types of claims listed above, which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision contained in our bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, operating results and financial condition.

Table of Contents

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered under this prospectus for general corporate purposes unless the applicable prospectus supplement provides otherwise. General corporate purposes may include, and are not limited to, costs to commercialize any approved product candidates, research and development costs, manufacturing costs, the acquisition or licensing of other businesses, products or product candidates, repayment and refinancing of debt, working capital and capital expenditures.

We may temporarily invest the net proceeds in a variety of capital preservation instruments, including investment grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government, or may hold such proceeds as cash, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

We will not receive any proceeds from the sale of the Warrants or shares of our common stock by the selling securityholders.

Table of Contents

GENERAL DESCRIPTION OF OUR SECURITIES

We may offer and sell, at any time and from time to time:

shares of our common stock;

shares of preferred stock;

warrants to purchase shares of our common stock, preferred stock and/or debt securities;

debt securities consisting of debentures, notes or other evidences of indebtedness;

units consisting of a combination of the foregoing securities;

subscription rights to purchase any of the foregoing securities; or

any combination of these securities.

The terms of any securities we offer will be determined at the time of sale. We may issue debt securities that are exchangeable for and/or convertible into common stock or any of the other securities that may be sold under this prospectus. When particular securities are offered by us, a supplement to this prospectus will be filed with the SEC, which will describe the terms of the offering and sale of the offered securities.

DESCRIPTION OF OUR CAPITAL STOCK

The following description of our capital stock and provisions of our articles of incorporation, bylaws and the Pennsylvania Business Corporation law are summaries and are qualified in their entirety by reference to the articles of incorporation and the bylaws. We have filed copies of these documents with the SEC as exhibits to our registration statement, of which this prospectus forms a part.

Pursuant to our Second Amended and Restated Articles of Incorporation, our authorized capital stock consists of 50,000,000 shares of common stock, par value of \$0.01 per share, and 10,000,000 shares of preferred stock, par value \$0.01 per share, to be designated from time to time by our board of directors.

Common Stock

As of March 5, 2019, there were 21,944,169 shares of our common stock issued and outstanding. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of shareholders, including the election of directors, and do not have cumulative voting rights. Accordingly, the holders of a majority of the outstanding shares of common stock in person or represented by proxies in any election of directors can elect all of the directors standing for election, if they so choose, other than any directors that holders of any preferred stock that we

may issue may be entitled to elect.

Subject to preferences that may be applicable to any then-outstanding shares of preferred stock, holders of our common stock are entitled to receive ratably dividends when, as, and if declared by our board of directors out of funds legally available therefor, subject to any preferential dividend rights of outstanding preferred stock. In the event of our liquidation, dissolution, or winding up, holders of our common stock will be entitled to ratably receive the net assets of our company available after the payments of all debts and other liabilities and subject to the prior rights of the holders of any then-outstanding shares of preferred stock.

Holders of our common stock have no preemptive, subscription, redemption or conversion rights. All outstanding shares of our common stock are, and the common stock to be outstanding upon completion of this offering will be, duly authorized, validly issued, fully paid and non-assessable. The rights and privileges of the holders of the common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Table of Contents

Preferred Stock

Our board of directors has the authority, without further action by our shareholders, to issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the dividend, voting and other rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of the common stock and the voting and other rights of the holders of our common stock. We have no current plans to issue any shares of preferred stock.

Common Stock Warrants

We issued to the representatives of the underwriters in our IPO warrants to purchase up to 150,000 shares of our common stock, with a per share exercise price equal to \$12.00, or the IPO warrants, of which 140,000 are currently outstanding. The IPO warrants are exercisable by the underwriters at any time, in whole or in part, prior to March 6, 2019.

In connection with our acquisition of IV meloxicam and our CDMO business from Alkermes, we issued to Alkermes a seven-year warrant to purchase an aggregate of 350,000 shares of our common stock, with a per share exercise price of \$19.46 per share, referred to as the Alkermes Warrant. In December 2018, we amended the exercise price under the Alkermes Warrant to \$8.26 per share.

In November 2017, we entered into a credit agreement with Athyrium Opportunities III Acquisition LP, or Athyrium. Pursuant to this agreement, we issued to Athyrium and its affiliate the Warrants to purchase an aggregate of 348,664 shares of our common stock, with a per share exercise price of \$8.6043 per share. In December 2018, we amended the exercise price under the Warrants to \$6.84 per share. The Warrants expire on November 17, 2024. See Description of our Warrants Description of Warrants Offered by the Selling Securityholders.

Registration Rights

In March 2018 and February 2019 we entered into registration rights agreements with Aspire Capital Fund, LLC, or Aspire, in connection with common stock purchase agreements we entered into with Aspire in March 2018 and February 2019, respectively. These registration rights agreements required us to register the sales of shares of our common stock to Aspire pursuant to the common stock purchase agreements and to maintain continuous effectiveness of the registration statements until the earlier of (i) a date on which we are no longer eligible to use Form S-3, (ii) the date on which we have sold all shares under the applicable common stock purchase agreement or (iii) the date of termination of the applicable common stock purchase agreement. The sales of shares of our common stock to Aspire under the common stock purchase agreements were registered pursuant to prospectus supplements dated March 2, 2018 and February 19, 2019, respectively, to our registration statement on Form S-3 declared effective June 12, 2017 and the base prospectus therein.

In connection with the issuance of the Warrants to Athyrium and its affiliate, we granted piggy-back registration rights to holders of the Warrants to register such warrants and the common stock subject to such warrants in connection with the filing of any other registration statement related to a public offering of our common stock. Athyrium and its

affiliate exercised such rights with respect to the filing of the registration statement of which this prospectus forms a part.

Table of Contents

Anti-Takeover Effects of Pennsylvania Law and Our Articles of Incorporation and Bylaws

Pennsylvania Anti-Takeover Law

Provisions of the PBCL applicable to us provide, among other things, that:

we may not engage in a business combination with an interested shareholder, generally defined as a holder of 20% of a corporation's voting stock, during the five-year period after the interested shareholder became such except under certain specified circumstances;

holders of our common stock may object to a control transaction involving us (a control transaction is defined as the acquisition by a person or group of persons acting in concert of at least 20% of the outstanding voting stock of a corporation), and demand that they be paid a cash payment for the fair value of their shares from the controlling person or group ;

holders of control shares will not be entitled to voting rights with respect to any shares in excess of specified thresholds, including 20% voting control, until the voting rights associated with such shares are restored by the affirmative vote of a majority of disinterested shares and the outstanding voting shares of the Company; and

any profit, as defined, realized by any person or group who is or was a controlling person or group with respect to us from the disposition of any equity securities of within 18 months after the person or group became a controlling person or group shall belong to and be recoverable by us.

Pennsylvania-chartered corporations may exempt themselves from these and other anti-takeover provisions. Our articles of incorporation do not provide for exemption from the applicability of these or other anti-takeover provisions in the PBCL.

The provisions noted above may have the effect of discouraging a future takeover attempt that is not approved by our board of directors but which individual shareholders may consider to be in their best interests or in which shareholders may receive a substantial premium for their shares over the then current market price. As a result, shareholders who might wish to participate in such a transaction may not have an opportunity to do so. The provisions may make the removal of our board of directors or management more difficult. Furthermore, such provisions could result our company being deemed less attractive to a potential acquiror and/or could result in our shareholders receiving a lesser amount of consideration for their shares of our common stock than otherwise could have been available either in the market generally and/or in a takeover.

Articles of Incorporation and Bylaws

Provisions of our articles of incorporation and bylaws may delay or discourage transactions involving an actual or potential change of control or change in our management, including transactions in which shareholders might otherwise receive a premium for their shares, or transactions that our shareholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our articles of incorporation and bylaws:

divide our board of directors into three classes with staggered three-year terms;

provide that a special meeting of shareholders may be called only by a majority of our board of directors;

establish advance notice procedures with respect to shareholder proposals to be brought before a shareholder meeting and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors;

provide that shareholders may only act at a duly organized meeting; and

Table of Contents

provide that members of our board of directors may be removed from office by our shareholders only for cause by the affirmative vote of 75% of the total voting power of all shares entitled to vote generally in the election of directors.

Our bylaws also provide that, unless we consent in writing to the selection of an alternative forum, a state or federal court located within the County of Chester in the Commonwealth of Pennsylvania will be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of our company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees or our shareholders, (iii) any action asserting a claim arising pursuant to any provision of the PBCL, or (iv) any action asserting a claim peculiar to the relationships among or between our company and our officers, directors and shareholders. When there are no federal courts located in the County of Chester, as is currently the case, the exclusive forum provision of our bylaws establishes exclusive jurisdiction for the matters above in the state courts of the County of Chester. However, such provision does not establish exclusive jurisdiction in the state courts of the County of Chester for claims that arise under the Securities Act, the Exchange Act or other federal securities laws if there is exclusive or concurrent jurisdiction in the federal courts.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Broadridge Corporate Issuer Solutions, Inc.

Stock Market Listing

Our shares of common stock are listed for trading on the NASDAQ Capital Market under the symbol REPH.

DESCRIPTION OF OUR DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement or free writing prospectus, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a third party to be identified therein as trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. In the summary below, we have included references to the section numbers of the indenture so that you can easily locate these provisions. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer's certificate or by a supplemental indenture. (Section 2.2) The particular terms of each series of debt securities will be described in a

prospectus supplement relating to such series (including any pricing supplement or term sheet).

Table of Contents

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. (Section 2.1) We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount and the following terms of the debt securities, if applicable:

the title and ranking of the debt securities (including the terms of any subordination provisions);

the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;

any limit on the aggregate principal amount of the debt securities;

the date or dates on which the principal of the securities of the series is payable;

the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;

the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;

the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;

any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;

the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiples in excess thereof;

whether the debt securities will be issued in the form of certificated debt securities or global debt securities;

the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;

the currency of denomination of the debt securities, which may be United States Dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;

the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;

if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;

the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;

Table of Contents

any provisions relating to any security provided for the debt securities;

any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;

any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;

any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;

the provisions, if any, relating to conversion or exchange of any debt securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, the events requiring an adjustment of the conversion or exchange price and provisions affecting conversion or exchange;

any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities; and

whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees. (Section 2.2)

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, or the Depository, or a nominee of the Depository (we will refer to any debt security represented by a global debt security as a book-entry debt security), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a certificated debt security) as set forth in the applicable prospectus supplement. Except as set forth under the heading Global Debt Securities and Book-Entry

System below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. (Section 2.4) No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange. (Section 2.7)

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Table of Contents

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depositary, and registered in the name of the Depositary or a nominee of the Depositary. Please see Global Securities.

Covenants

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities. (Article IV)

No Protection in the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

Consolidation, Merger and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to any person (a successor person) unless:

we are the surviving corporation or the successor person (if other than Recro Pharma, Inc.) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and

immediately after giving effect to the transaction, no Default or Event of Default, shall have occurred and be continuing.

Notwithstanding the above, any of our subsidiaries may consolidate with, merge into or transfer all or part of its properties to us. (Section 5.1)

Events of Default

Event of Default means with respect to any series of debt securities, any of the following:

default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);

default in the payment of principal of any security of that series at its maturity;

default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or Recro Pharma, Inc. and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;

certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of Recro Pharma, Inc.;

and

any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement. (Section 6.1)

Table of Contents

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. (Section 6.1) The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

We will provide the trustee written notice of any Default or Event of Default within 30 days of becoming aware of the occurrence of such Default or Event of Default, which notice will describe in reasonable detail the status of such Default or Event of Default and what action we are taking or propose to take in respect thereof. (Section 6.1)

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. (Section 6.2) We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

The indenture provides that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. (Section 7.1(e)) Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series. (Section 6.12)

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and

the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request, and offered indemnity or security satisfactory to the trustee, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days. (Section 6.7)

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment. (Section 6.8)

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. (Section 4.3) If a Default or Event of Default occurs and is continuing with

Table of Contents

respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall mail to each holder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities. (Section 7.5)

Modification and Waiver

We and the trustee may modify, amend or supplement the indenture or the debt securities of any series without the consent of any holder of any debt security:

to cure any ambiguity, defect or inconsistency;

to comply with covenants in the indenture described above under the heading Consolidation, Merger and Sale of Assets ;

to provide for uncertificated securities in addition to or in place of certificated securities;

to add guarantees with respect to debt securities of any series or secure debt securities of any series;

to surrender any of our rights or powers under the indenture;

to add covenants or events of default for the benefit of the holders of debt securities of any series;

to comply with the applicable procedures of the applicable depositary;

to make any change that does not adversely affect the rights of any holder of debt securities;

to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;

to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or

to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act. (Section 9.1)

We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;

reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;

reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;

reduce the principal amount of discount securities payable upon acceleration of maturity;

waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);

Table of Contents

make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;

make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or

waive a redemption payment with respect to any debt security. (Section 9.3)

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. (Section 9.2) The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration. (Section 6.13)

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (subject to certain exceptions). We will be so discharged upon the irrevocable deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money or U.S. government obligations in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred. (Section 8.3)

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

we may omit to comply with the covenant described under the heading Consolidation, Merger and Sale of Assets and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and

any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series (covenant defeasance).

The conditions include:

depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in

Table of Contents

accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and

delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred. (Section 8.4)

No Personal Liability of Directors, Officers, Employees or Shareholders

None of our past, present or future directors, officers, employees or shareholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

Governing Law

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York.

The indenture provides that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to the indenture, the debt securities or the transactions contemplated thereby.

The indenture provides that any legal suit, action or proceeding arising out of or based upon the indenture or the transactions contemplated thereby may be instituted in the federal courts of the United States of America located in the City of New York or the courts of the State of New York in each case located in the City of New York, and we, the trustee and the holder of the debt securities (by their acceptance of the debt securities) irrevocably submit to the non-exclusive jurisdiction of such courts in any such suit, action or proceeding. The indenture will further provide that service of any process, summons, notice or document by mail (to the extent allowed under any applicable statute or rule of court) to such party's address set forth in the indenture will be effective service of process for any suit, action or other proceeding brought in any such court. The indenture will further provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the courts specified above and irrevocably and unconditionally waive and agree not to plead or claim any such suit, action or other proceeding has been brought in an inconvenient forum. (Section 10.10)

Table of Contents

DESCRIPTION OF OUR WARRANTS

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in each applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the applicable warrant agreements and the applicable prospectus supplement for the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

the offering price and aggregate number of warrants offered;

the currency for which the warrants may be purchased;

if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;

if applicable, the date on and after which the warrants and the related securities will be separately transferable;

in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;

in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;

the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;

the terms of any rights to redeem or call the warrants;

any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

the periods during which, and places at which, the warrants are exercisable;

the manner of exercise;

the dates on which the right to exercise the warrants will commence and expire;

the manner in which the warrant agreement and warrants may be modified;

federal income tax consequences of holding or exercising the warrants;

the terms of the securities issuable upon exercise of the warrants; and

any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Holders of equity warrants will not be entitled:

to vote, consent or receive dividends;

receive notice as shareholders with respect to any meeting of shareholders for the election of our directors or any other matter; or

exercise any rights as shareholders of Recro.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set

Table of Contents

forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

Description of Outstanding Warrants

As of March 5, 2019, there were 838,664 warrants to purchase shares of our common stock outstanding. See Description of Our Capital Stock – Common Stock Warrants.

Description of Warrants Offered by Selling Securityholders

In November 2017, we entered into a credit agreement with Athyrium. Pursuant to the credit agreement, we issued to Athyrium and its affiliate the Warrants to purchase an aggregate of 348,664 shares of our common stock, with a per share exercise price of \$8.6043 per share, subject to customary anti-dilution provisions. In December 2018, we amended the exercise price under the Warrants to \$6.84 per share. The Warrants expire on November 17, 2024. A copy of each of the Warrants is filed as an exhibit to the registration statement of which this prospectus forms a part, and is incorporated herein by reference. The description of the Warrants set forth herein does not purport to be complete and is qualified in its entirety by reference to the full text of each of the Warrants, as amended.

DESCRIPTION OF OUR UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

the title of the series of units;

identification and description of the separate constituent securities comprising the units;

the price or prices at which the units will be issued;

the date, if any, on and after which the constituent securities comprising the units will be separately transferable;

a discussion of certain United States federal income tax considerations applicable to the units; and

any other terms of the units and their constituent securities.

Table of Contents

DESCRIPTION OF OUR SUBSCRIPTION RIGHTS

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

GLOBAL SECURITIES

Book-Entry, Delivery and Form

Unless we indicate differently in any applicable prospectus supplement or free writing prospectus, the securities initially will be issued in book-entry form and represented by one or more global notes or global securities, or, collectively, global securities. The global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, as depository, or DTC, and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depository to its nominee or by the nominee to the depository, or by the depository or its nominee to a successor depository or to a nominee of the successor depository.

DTC has advised us that it is:

a limited-purpose trust company organized under the New York Banking Law;

a banking organization within the meaning of the New York Banking Law;

a member of the Federal Reserve System;

a clearing corporation within the meaning of the New York Uniform Commercial Code; and

a clearing agency registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct participants in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC's records. The ownership interest of the actual purchaser of a security, which we

sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants' records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an

Table of Contents

authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC's records reflect only the identity of the direct participants to whose accounts the securities are credited, which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depository and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer or exchange.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depository or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below and unless if otherwise provided in the description of the applicable securities herein or in the applicable prospectus supplement, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least 15 days before the applicable payment date by the persons entitled to payment, unless a shorter period is satisfactory to the applicable trustee or other designated party.

Redemption proceeds, distributions and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in street name. Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must

rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

Table of Contents

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

DTC may discontinue providing its services as securities depository with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depository is not obtained, securities certificates are required to be printed and delivered.

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

DTC notifies us that it is unwilling or unable to continue as a depository for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depository is not appointed within 90 days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;

we determine, in our sole discretion, not to have such securities represented by one or more global securities;
or

an Event of Default has occurred and is continuing with respect to such series of securities, we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities. Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depository directs. It is expected that these directions will be based upon directions received by the depository from its participants with respect to ownership of beneficial interests in the global securities.

Euroclear and Clearstream

If so provided in the applicable prospectus supplement, you may hold interests in a global security through Clearstream Banking S.A., which we refer to as Clearstream, or Euroclear Bank S.A./N.V., as operator of the Euroclear System, which we refer to as Euroclear, either directly if you are a participant in Clearstream or Euroclear or indirectly through organizations which are participants in Clearstream or Euroclear. Clearstream and Euroclear will hold interests on behalf of their respective participants through customers' securities accounts in the names of Clearstream and Euroclear, respectively, on the books of their respective U.S. depositories, which in turn will hold such interests in customers' securities accounts in such depositories' names on DTC's books.

Clearstream and Euroclear are securities clearance systems in Europe. Clearstream and Euroclear hold securities for their respective participating organizations and facilitate the clearance and settlement of securities transactions between those participants through electronic book-entry changes in their accounts, thereby eliminating the need for physical movement of certificates.

Payments, deliveries, transfers, exchanges, notices and other matters relating to beneficial interests in global securities owned through Euroclear or Clearstream must comply with the rules and procedures of those systems. Transactions between participants in Euroclear or Clearstream, on one hand, and other participants in DTC, on the other hand, are also subject to DTC's rules and procedures.

Investors will be able to make and receive through Euroclear and Clearstream payments, deliveries, transfers and other transactions involving any beneficial interests in global securities held through those systems only on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers and other institutions are open for business in the United States.

Cross-market transfers between participants in DTC, on the one hand, and participants in Euroclear or Clearstream, on the other hand, will be effected through DTC in accordance with the DTC's rules on behalf of

Table of Contents

Euroclear or Clearstream, as the case may be, by their respective U.S. depositaries; however, such cross-market transactions will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with the rules and procedures and within the established deadlines (European time) of such system. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to its U.S. depositary to take action to effect final settlement on its behalf by delivering or receiving interests in the global securities through DTC, and making or receiving payment in accordance with normal procedures for same-day fund settlement. Participants in Euroclear or Clearstream may not deliver instructions directly to their respective U.S. depositaries.

Due to time zone differences, the securities accounts of a participant in Euroclear or Clearstream purchasing an interest in a global security from a direct participant in DTC will be credited, and any such crediting will be reported to the relevant participant in Euroclear or Clearstream, during the securities settlement processing day (which must be a business day for Euroclear or Clearstream) immediately following the settlement date of DTC. Cash received in Euroclear or Clearstream as a result of sales of interests in a global security by or through a participant in Euroclear or Clearstream to a direct participant in DTC will be received with value on the settlement date of DTC but will be available in the relevant Euroclear or Clearstream cash account only as of the business day for Euroclear or Clearstream following DTC's settlement date.

Other

The information in this section of this prospectus concerning DTC, Clearstream, Euroclear and their respective book-entry systems has been obtained from sources that we believe to be reliable, but we do not take responsibility for this information. This information has been provided solely as a matter of convenience. The rules and procedures of DTC, Clearstream and Euroclear are solely within the control of those organizations and could change at any time. Neither we nor the trustee nor any agent of ours or of the trustee has any control over those entities and none of us takes any responsibility for their activities. You are urged to contact DTC, Clearstream and Euroclear or their respective participants directly to discuss those matters. In addition, although we expect that DTC, Clearstream and Euroclear will perform the foregoing procedures, none of them is under any obligation to perform or continue to perform such procedures and such procedures may be discontinued at any time. Neither we nor any agent of ours will have any responsibility for the performance or nonperformance by DTC, Clearstream and Euroclear or their respective participants of these or any other rules or procedures governing their respective operations.

Table of Contents**SELLING SECURITYHOLDERS**

This prospectus also relates to the possible resale by certain of our securityholders from time to time of up to (i) 348,664 Warrants to purchase shares of our common stock and (ii) an aggregate of 348,664 shares of our common stock issuable upon the exercise of the Warrants. The following table sets forth information regarding beneficial ownership of our securities by the selling securityholders as of February 19, 2019 and is based upon information provided to us by the selling securityholders and in our possession as of February 19, 2019. Unless otherwise indicated, beneficial ownership is determined in accordance with the rules of the SEC.

| Selling Securityholder | Warrants Beneficially Owned Prior to the Offering | Shares of Common Stock Beneficially Owned Prior to Offering(1) | Number of Warrants that May Be Offered Pursuant to this Prospectus | Number of | Warrants Beneficially Owned After the Offering(2) | Shares of Common Stock Beneficially Owned After Offering(2) | Percentage of Outstanding Shares of Common Stock Beneficially Owned After Offering(2) |
|--|---|--|--|--|---|---|---|
| | | | | Shares that May Be Offered Pursuant to this Prospectus | | | |
| Athyrium Opportunities II Acquisition LP(3) | 174,332 | 174,332 | 174,332 | 174,332 | | | |
| Athyrium Opportunities III Acquisition LP(4) | 174,332 | 174,332 | 174,332 | 174,332 | | | |

- (1) The number of shares of our common stock indicated assumes exercise of all of the selling securityholders Warrants, each for one share of common stock. However, the number of shares issuable upon exercise of a Warrant is subject to customary anti-dilution protections as described under Description of Our Warrants-Description of Warrants Offered by the Selling Securityholders. As a result, the number of shares of common stock issuable upon exercise of the Warrants may increase or decrease in the future.
- (2) Assumes that all Warrants and shares of common stock being registered under the registration statement of which this prospectus forms a part that are held by the selling securityholder are resold to third parties.
- (3) The following entities affiliated with Athyrium Opportunities II Acquisition LP may be deemed to beneficially own indirectly 174,332 shares of our common stock held by Athyrium Opportunities II Acquisition LP: (i) Athyrium Opportunities Associates II LP; (ii) Athyrium GP Holdings LLC; and (iii) Athyrium Funds GP Holdings, LLC. The address of the principal business office of Athyrium Opportunities II Acquisition LP is 530 Fifth Avenue, Floor 25, New York, NY, 10036.
- (4) The following entities affiliated with Athyrium Opportunities III Acquisition LP may be deemed to beneficially own indirectly 174,332 shares of our common stock held by Athyrium Opportunities III Acquisition LP: (i) Athyrium Opportunities Associates III LP; (ii) Athyrium Opportunities Associates III GP LLC; and (iii) Athyrium Funds GP Holdings, LLC. The address of the principal business office of Athyrium Opportunities III Acquisition LP is 530 Fifth Avenue, Floor 25, New York, NY, 10036.

On November 17, 2017, we entered into a five-year credit agreement, or the Credit Agreement, with Athyrium Opportunities III Acquisition LP. Athyrium Opportunities III Acquisition LP is an affiliate of Athyrium Opportunities II Acquisition LP. The Credit Agreement provides for \$100 million in term loans, \$60 million of which was funded in November 2017. In December 2018, we amended the Credit Agreement to, among other things, revise the conditions for drawing on the additional tranches of term loans, and drew upon a \$10 million term B-1 loan. As of December 31, 2018, we had an outstanding balance under the Credit Agreement of \$70 million. On February 28, 2019, we entered into a second amendment to the Credit Agreement which, among other things, increased the amount of term loans available under the Credit Agreement from \$100 million to \$125 million, restructured the existing \$15 million term B-2 loan and \$15 million term C loan into one \$55 million term B-2 loan and extended the maturity date until March 31, 2023.

Each of Athyrium Opportunities II Acquisition LP and Athyrium Opportunities III Acquisition LP acquired the Warrants on November 17, 2017 in connection with the Credit Agreement. Pursuant to the Warrants, we agreed, among other matters, to register for resale the Warrants and shares of our common stock issuable upon the exercise of the Warrants. In accordance with the terms of the Warrants, we are registering such Warrants and

Table of Contents

shares of our common stock issuable upon the exercise of the Warrants for resale under the registration statement of which this prospectus forms a part.

The selling securityholders listed in the above table may have sold or transferred, in transactions pursuant to this prospectus or exempt from the registration requirements of the Securities Act, some or all of its Warrants since the date as of which the information is presented in the above table.

Information concerning the selling securityholders may change from time to time and any such changed information will be set forth in supplements to this prospectus or amendments to the registration statement of which this prospectus is a part if and when necessary.

Other than as described above, and in documents filed by us with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, none of the selling securityholders has within the past three years had any position, office or other material relationship with us or any of our subsidiaries other than as a holder of our securities.

We have agreed to pay all costs, expenses and fees relating to registering the Warrants and shares of our common stock issuable upon the exercise of the Warrants to be sold by the selling securityholders identified in this prospectus. The selling securityholders will pay any underwriting discounts, selling commissions, stock transfer taxes or similar charges incurred for the sale of such Warrants or shares of our common stock.

Table of Contents

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

The selling securityholders may from time to time sell all or a portion of the Warrant or shares of our common stock issuable upon the exercise of Warrants beneficially owned by them and offered hereby directly or through one or more underwriters, broker-dealers or agents. If the Warrant or shares of common stock issuable upon the exercise of Warrants are sold through underwriters or broker-dealers, the selling securityholders will be responsible for discounts or commissions payable to such underwriters or broker-dealers. The selling securityholders may use any one or more of the following methods (which may involve crosses or block transactions) when selling securities:

on any national stock exchange or U.S. interdealer quotation system of a registered national securities association on which the securities may be listed or quoted at the time of sale;

in the over-the-counter market;

underwritten transactions;

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

broker-dealers may agree with the selling securityholders to sell a specified number of such securities at a stipulated price per share;

a combination of any such methods of sale; and

any other method permitted pursuant to applicable law.

The selling securityholders may also sell all or a portion of their Warrants or the common stock issuable upon the exercise of Warrants in reliance upon Rule 144 under the Securities Act or Section 4(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions. The selling securityholders may also transfer, devise or gift such securities by other means not described in this prospectus. The selling securityholders are not obligated to, and there is no assurance that the selling securityholders will, sell all or any of the securities we are registering.

Each time that we or the selling securityholders sell securities covered by this prospectus, we or the selling securityholders will (to the extent required) provide a prospectus supplement or supplements that will describe

Table of Contents

the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. The selling securityholders as well as underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We are required to pay certain fees and expenses incurred by us incident to the registration of the securities held by the selling securityholders. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock or preferred stock will be listed on the Nasdaq Capital Market, but any other securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

We or the selling securityholders may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we or the selling securityholders may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated

transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or the selling securityholders or borrowed from us, the selling securityholders or others to settle those sales or to close

Table of Contents

out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we or the selling securityholders may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

Table of Contents

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Pepper Hamilton LLP, Philadelphia, Pennsylvania. Additional legal matters may be passed upon for us, the selling securityholders or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement. As appropriate, legal counsel representing the underwriters, dealers or agents will be named in the accompanying prospectus supplement and may opine to certain legal matters.

EXPERTS

The consolidated financial statements of Recro Pharma, Inc. and subsidiaries as of December 31, 2018 and 2017, and for each of the years in the three-year period ended December 31, 2018, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

Table of Contents

\$100,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

Units

Subscription Rights

Offered by the Company

348,664 Warrants

348,664 Shares of Common Stock

Offered by Selling Securityholders

PROSPECTUS

, 2019

Table of Contents**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution.**

Set forth below is an estimate (except in the case of the registration fee) of the amount of fees and expenses to be incurred in connection with the issuance and distribution of the offered securities registered hereby, other than underwriting discounts and commission, if any, incurred in connection with the sale of the offered securities. All such amounts will be borne by Recro Pharma, Inc.

| | Amount to be paid |
|--|----------------------|
| SEC registration fee | \$ 12,480.46 |
| NASDAQ Capital Market additional listing fee | \$ (1) |
| Printing expenses | \$ (1) |
| Accounting fees and expenses | \$ (1) |
| Legal fees and expenses | \$ (1) |
| Miscellaneous | \$ (1) |
| Total | \$ (1) |

- (1) These expenses are not presently known and cannot be estimated at this time as they are based upon the amount and type of security being offered, as well as the number of offerings. The aggregate amount of these expenses will be reflected in the applicable prospectus supplement.

Item 15. Indemnification of Directors and Officers.

The Company's bylaws provide that, to the fullest extent permitted by Pennsylvania law, any officer or director of the Company who was or is a party or is threatened to be made a party to, any threatened, or pending or completed action, suit or proceeding, whether civil, criminal, administrative, or investigative, by reason of fact that he/she is or was acting as was a representative of the corporation, or is or was serving at the request or for the benefit of the Company as a director, officer, employee, agent, partner, or fiduciary of, or in any other capacity for, another corporation or any partnership, joint venture, trust, employee benefit plan or other enterprise, shall be indemnified by the Company for any losses or expenses (including attorneys' fees) reasonably incurred in connection with service as an officer or director of the Company, if the director or officer acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the Company and, with respect to any criminal proceeding, had no reasonable cause to believe his conduct was unlawful.

Pennsylvania law requires that to the extent that a director or officer of the Company has been successful on the merits or otherwise in defense of any action or proceeding referred to above or in defense of any claim, issue or matter therein, that director or officer shall be indemnified against expenses (including attorney fees) actually and reasonably incurred by him in connection therewith. The Company's bylaws further provide that the right to indemnification includes the right to have expenses reasonably incurred in defending any action or proceeding described above paid by the Company in advance of the final disposition of the action or proceeding to the fullest extent permitted by

Pennsylvania law; provided that, if required by Pennsylvania law, the payment of such expenses incurred in advance of the final disposition of the action or proceeding shall be made only upon delivery to the Company of an undertaking to repay all amounts so advanced without interest if it is ultimately determined that the director or officer is not entitled to be indemnified.

Indemnification shall not be made in respect of any claim, issue or matter as to which the person has been adjudged to be liable to the Company unless and only to the extent that a court determines that, despite the adjudication of liability but in view of all the circumstances of the case, the person is fairly and reasonably entitled to indemnity for the expenses that the court deems proper. Nor shall indemnification be made in any case where the act or failure to act giving rise to the claim for indemnification is determined by a court to have constituted willful misconduct or recklessness.

II-1

Table of Contents**Item 16. Exhibits.**

| Exhibit No. | Description |
|--------------------|---|
| 1.1* | Form of Underwriting Agreement |
| 4.1 | <u>Second Amended and Restated Articles of Incorporation of Recro Pharma, Inc. Incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on March 13, 2014.</u> |
| 4.2 | <u>Third Amended and Restated Bylaws of Recro Pharma, Inc. Incorporated herein by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed on March 13, 2014.</u> |
| 4.3 | <u>Specimen certificate evidencing shares of common stock. Incorporated herein by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A filed on December 20, 2013.</u> |
| 4.4 | <u>Form of Alkermes Warrant. Incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on March 11, 2015.</u> |
| 4.5 | <u>First Amendment, dated December 20, 2018 to Warrant to Purchase Stock, dated April 10, 2015, by and between Recro Pharma, Inc. and Alkermes Pharma Ireland Limited. Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on December 28, 2018 (File No. 001-36329).</u> |
| 4.6 | <u>Common Stock Purchase Warrant, dated November 17, 2017, in favor of Athyrium Opportunities III Acquisition LP. Incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 20, 2017 (File No. 001-36329).</u> |
| 4.7 | <u>Common Stock Purchase Warrant, dated November 17, 2017, in favor of Athyrium Opportunities II Acquisition LP. Incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on November 20, 2017 (File No. 001-36329).</u> |
| 4.8 | <u>First Amendment to Credit Agreement and Investment Documents, dated December 28, 2018, by and between Recro Pharma, Inc. and Athyrium Opportunities III Acquisition LP. Incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 4, 2019 (File No.36329).</u> |
| 4.9 | <u>Form of IPO Warrant. Incorporated herein by reference to Exhibit A of Exhibit 1.1 to the Company's Registration Statement on Form S-1/A filed on February 11, 2014 (File No. 333-191879).</u> |
| 4.10 | <u>Registration Rights Agreement, dated March 2, 2018, by and between Recro Pharma, Inc. and Aspire Capital Fund, LLC. Incorporated herein by reference to Exhibit 4.8 to the Company's Annual Report on Form 10-K filed on March 2, 2018 (File No. 001-36329).</u> |
| 4.11 | <u>Registration Rights Agreement, dated February 19, 2019, by and between Recro Pharma, Inc. and Aspire Capital Fund, LLC. Incorporated herein by reference to Exhibit 4.8 to the Company's Annual Report on Form 10-K filed on February 19, 2019 (File No. 001-36329).</u> |
| 4.12* | Specimen certificate evidencing shares of preferred stock |
| 4.13* | Form of any Certificate of Designation setting forth the preferences and rights with respect to any preferred stock issued hereunder |
| 4.14+ | <u>Form of Indenture.</u> |

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| | |
|-------|--|
| 4.15* | Form of Debt Securities |
| 4.16* | Form of Warrant |
| 4.17* | Form of Warrant Agreement for Common Stock, including Warrant Certificate for Common Stock |

Table of Contents

| | |
|--------|---|
| 4.18* | Form of Warrant Agreement for Preferred Stock, including Warrant Certificate for Preferred Stock |
| 4.19* | Form of Warrant Agreement for Debt Securities, including Warrant Certificate for Debt Securities |
| 4.20* | Form of Unit Agreement |
| 4.21* | Form of Subscription Rights Agreement |
| 5.1+ | <u>Opinion of Pepper Hamilton LLP</u> |
| 23.1+ | <u>Consent of KPMG LLP, Independent Registered Public Accounting Firm</u> |
| 23.2+ | <u>Consent of Pepper Hamilton LLP (included in Exhibit 5.1)</u> |
| 24.1+ | <u>Power of Attorney</u> |
| 25.1** | Form T-1 Statement of Eligibility and Qualification under the Trust Indenture Act of 1939 of Trustee for Form of Indenture. |

* To be filed by amendment or as an exhibit to a report pursuant to Section 13(a), 13(c) or 15(d) of the Exchange Act.

** To be filed in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939 and Rule 5b-3 thereunder.

Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment.

+ Previously filed.

Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes:

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

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

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

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

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

Table of Contents

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which the prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (6) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
 - (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

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- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement

II-4

Table of Contents

shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

- (c) The undersigned registrant hereby undertakes to supplement the prospectus, after the expiration of the subscription period, to set forth the results of the subscription offer, the transactions by the underwriters during the subscription period, the amount of unsubscribed securities to be purchased by the underwriters, and the terms of any subsequent reoffering thereof. If any public offering by the underwriters is to be made on terms differing from those set forth on the cover page of the prospectus, a post-effective amendment will be filed to set forth the terms of such offering.

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

- (j) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under Section 305(b)(2) of the Act.

Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Malvern, Pennsylvania, on March 6, 2019.

RECRO PHARMA, INC.

By: /s/ Gerri A. Henwood
Gerri A. Henwood

Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated on March 6, 2019.

| Signature | Title |
|----------------------|--|
| /s/ Gerri A. Henwood | President, Chief Executive Officer and Director |
| Gerri A. Henwood | (Principal Executive Officer) |
| * | Chief Financial Officer |
| Ryan Lake | (Principal Financial Officer and Principal Accounting Officer) |
| * | Director |
| Alfred Altomari | |
| * | Director |
| William L. Ashton | |
| * | Director |
| Michael Berelowitz | |
| * | Director |
| Winston J. Churchill | |
| * | Director |

Karen Flynn

*

Director

Bryan M. Reasons

*

Director

Wayne B. Weisman

* /s/ Gerri A. Henwood

By: Gerri A. Henwood
Attorney-in-Fact