

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

**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.)

1 E. Uwchlan Ave, Suite 112
Exton, Pennsylvania 19341
(770) 534-8239

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

J. David Enloe, Jr.
President and Chief Executive Officer
Recro Pharma, Inc.
1 E. Uwchlan Ave, Suite 112
Exton, Pennsylvania 19341
(770) 534-8239

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

With copies to:

Rachael M. Bushey
Jennifer L. Porter
Troutman Pepper Hamilton Sanders LLP
3000 Two Logan Square
Eighteenth and Arch Streets
Philadelphia, PA 19103
(215) 981-4000

Approximate date of commencement of proposed sale to the public: From time to time, after the effective date of this registration statement.

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.

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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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)(3)	Proposed maximum offering price per share(3)	Proposed maximum aggregate offering price(3)	Amount of registration fee
Common Stock, par value \$0.01	9,302,718	\$2.39(2)	\$22,233,496	\$2,425.67

- (1) The Registrant is hereby registering 9,302,718 shares of its common stock for resale that are issuable to certain selling shareholders named in the prospectus as consideration pursuant to the terms of the Purchase Agreement, as described in the prospectus.
(2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended (the “Securities Act”), using the average of the high and low prices as reported on the Nasdaq Capital Market on September 8, 2021.
(3) Pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include an indeterminate number of shares of common stock as may become issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

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 Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may change. The selling shareholders may not sell these securities pursuant to this registration statement until the registration statement filed with the U.S. Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED SEPTEMBER 10, 2021

PRELIMINARY PROSPECTUS

Recro Pharma, Inc.
9,302,718 Shares of Common Stock

This prospectus relates to the resale from time to time of up to 9,302,718 shares of our common stock, or the Resale Shares, by the selling shareholders named herein.

We will issue the Resale Shares to the selling shareholders on or about February 11, 2022, as a portion of the purchase price consideration under that certain Unit Purchase Agreement, dated as of August 13, 2021, or the Purchase Agreement, by and among us, IriSys, LLC, or IriSys, Inc., Continent Pharmaceuticals U.S., Inc., and EPS Americas Corp., or collectively, the Sellers, pursuant to which we acquired 100% of the outstanding equity of IriSys from the Sellers, resulting in IriSys becoming our wholly owned subsidiary. We refer to the transactions surrounding our acquisition of IriSys herein as the “IriSys Acquisition.” We are registering the Resale Shares on behalf of the selling shareholders pursuant to the Purchase Agreement.

We will pay the expenses of registering the Resale Shares, however we will not receive any of the proceeds from the sale of the Resale Shares by the selling shareholders.

The selling shareholders identified in this prospectus may offer the Resale Shares from time to time through public or private transactions at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. The registration of the Resale Shares on behalf of the selling shareholders, however, does not necessarily mean that any of the selling shareholders will offer or sell their Resale Shares under this registration statement or at any time in the near future. We cannot predict when, or in what amounts, the selling shareholders may sell any of the Resale Shares. For additional information on the possible methods of sale that may be used by the selling shareholders, you should refer to the section entitled “Plan of Distribution” beginning on page 12 of this prospectus.

Investing in our common stock involves a high degree of risk. You should consider carefully the [risk factors](#) beginning on page 3 of this prospectus before purchasing any of the Resale Shares offered by this prospectus.

Our common stock is traded on the Nasdaq Capital Market, or Nasdaq, under the symbol “REPH.” The last reported sale price of our common stock on Nasdaq on September 8, 2021, was \$2.37 per share.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

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

The date of this prospectus is , 2021.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 under the Securities Act of 1933, as amended, or the Securities Act, that we filed with the Securities and Exchange Commission, or the SEC, using the “shelf” registration process. Under this shelf registration process, the selling shareholders named in this prospectus may offer and sell the common stock described in this prospectus in one or more offerings. Any accompanying prospectus supplement or any related free writing prospectus may also add, update or change information contained in this prospectus or in any documents incorporated by reference into this prospectus. If the information varies between this prospectus and the accompanying prospectus supplement, you should rely on the information in the accompanying prospectus supplement. You should read this prospectus, any accompanying prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading “Where You Can Find More Information,” before investing in the common stock offered hereby.

You should rely only on the information contained in or incorporated by reference into this prospectus, any accompanying prospectus supplement and any applicable free writing prospectus. Neither we nor the selling shareholders have authorized anyone to provide you with different information. Neither we nor the selling shareholders are making an offer of these securities in any jurisdiction where the offer is not permitted. You should not assume that the information contained in this prospectus, any prospectus supplement, any applicable free writing prospectus or the documents incorporated by reference, is accurate as of any date other than the dates of those documents regardless of the time of delivery of this prospectus or prospectus supplement or any sale of the Resale Shares. Since the respective dates of this prospectus and the documents incorporated by reference into this prospectus, our business, financial condition, results of operations and prospects may have changed.

For investors outside the United States, neither we nor the selling shareholders have done anything that would permit this offering, or possession or distribution of this prospectus, any prospectus supplement or free writing prospectus, in any jurisdiction where action for that purpose is required other than in the United States. Persons outside the United States who come into possession of this prospectus, any applicable prospectus supplement or free writing prospectus must inform themselves about, and observe any restrictions relating to, the offering of the Resale Shares and the distribution of this prospectus outside of the United States.

In this prospectus, unless expressly indicated or the context otherwise requires, references to “Recro,” “we,” “us,” “our” and “the Company” refer to Recro Pharma, Inc., a Pennsylvania corporation, and its consolidated subsidiaries.

Solely for convenience, tradenames referred to in this prospectus appear without the® and™ symbols, 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.

All references to “this prospectus” refer to this prospectus and any applicable prospectus supplement, including the documents incorporated by reference herein and therein, unless the context otherwise requires.

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PROSPECTUS SUMMARY

This summary description about us and our business highlights selected information contained elsewhere in this prospectus or incorporated by reference into this prospectus. It does not contain all the information you should consider before investing in our securities. You should carefully read the entire prospectus, any applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our common stock discussed under the heading “Risk Factors” contained in this prospectus, any 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 forms a part.

Overview

We are a dedicated contract development and manufacturing organization, or CDMO, solving complex formulation and manufacturing challenges for companies developing oral solid dose drug products. We leverage our formulation and development expertise to develop and manufacture pharmaceutical products using proprietary delivery technologies and know-how for partners who develop and commercialize or plan to commercialize these products.

In 2020, we launched our clinical trials support services capabilities, which includes preparation of clinical trial supplies, as well as specialized services dedicated to the development and Good Manufacturing Practices, or cGMP, of high-potency products. We operate a 97,000 square foot, DEA-licensed manufacturing facility in Gainesville, Georgia, as well as a 24,000 square foot development, high-potency product and clinical packaging facility in Gainesville, Georgia that we opened in October 2018. We currently develop and/or manufacture the following key products with our key commercial partners: Ritalin LA®, Focalin XR®, Verelan PM®, Verelan SR®, Verapamil PM and Verapamil SR, as well as supporting development stage products.

Our manufacturing and development capabilities include formulation, product development from formulation through clinical trial and commercial manufacturing, and specialized capabilities for solid oral dosage forms, extended release and controlled substance manufacturing, as well as high potency development and manufacturing. In a typical collaboration, we work with our partners to develop product candidates, or new formulations of existing product candidates, and may license certain intellectual property to such partners. We also typically exclusively manufacture and supply clinical and commercial supplies of these proprietary products and product candidates.

Recent Developments

Acquisition of IriSys; Entry into Purchase Agreement

On August 13, 2021, we acquired all of the outstanding equity of IriSys from the Sellers pursuant to the Purchase Agreement, thereby resulting in IriSys becoming our wholly owned subsidiary. Located in San Diego, California, IriSys provides contract pharmaceutical product development and manufacturing services, specializing in formulation research and development and good manufacturing practices of clinical trial materials and specialty pharmaceutical products.

The total purchase price, or the Purchase Price, payable by us to the Sellers for the IriSys Acquisition was approximately \$49.85 million, subject to certain adjustments as provided in the Purchase Agreement based on transaction expenses, cash and cash equivalents, indebtedness and the net working capital of IriSys at the closing of the transaction, or the Closing. The Purchase Price consisted of: (i) \$25.5 million in cash paid to the Sellers at the Closing; (ii) 9,302,718 shares of our common stock to be issued to the Sellers (or their permitted designees)

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on or about February 11, 2022; and (iii) a subordinated promissory note issued to certain Sellers in the aggregate principal amount of approximately \$6.1 million, or the Note. The Note is unsecured, has a three-year term, and bears interest at a rate of six percent (6%) per annum.

Sixth Amendment to Credit Agreement

On August 13, 2021, in connection with the IriSys Acquisition, we also entered into a Sixth Amendment to Credit Agreement, or the Amendment, by and among the Company, any subsidiaries named as guarantors therein, the lenders party thereto, or Lenders, and Athyrium Opportunities III Acquisition LP, or Athyrium Opportunities III, in its capacity as the administrative agent.

The Amendment provided (i) the Lenders' consent regarding the IriSys Acquisition, (ii) Athyrium Opportunities III's and the Lenders' consent to changes made to the original Credit Agreement dated as of November 17, 2017, or the Credit Agreement, including permitting the Note, subject to a subordination agreement which subordinates the obligations of the Company under the Note to the obligations under the Credit Agreement, (iii) for the inclusion of an updated fee letter in connection with the Credit Agreement, specifying the fees the Company will pay to Athyrium Opportunities III and the Lenders in connection with the Credit Agreement, as amended by the Amendment, and (iv) an extension of the maturity date of the loan issued under the Credit Agreement from March 31, 2023 to December 31, 2023.

This prospectus relates to the Resale Shares, which are the 9,302,718 shares of common stock to be issued to the Sellers (or their permitted designees) in connection with the Purchase Agreement as a portion of the Purchase Price paid for the IriSys Acquisition.

Corporate Information

We were incorporated under the laws of the Commonwealth of Pennsylvania in November 2007. Our principal executive offices are located at 1 E. Uwchlan Ave, Suite 112, Exton, Pennsylvania 19341, and our telephone number is (770) 534-8239. Our website address is www.recrocdmo.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, and you should not consider information contained on our website as part of this prospectus.

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RISK FACTORS

You should carefully consider the risks and uncertainties described in this prospectus and any accompanying prospectus supplement, including, without limitation, the risk factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2020 and our Quarterly Reports on Form 10-Q for the three months ended March 31, 2021 and the three and six months ended June 30, 2021, as such risk factors may be updated in our other filings with the SEC pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the risk factors described in any applicable prospectus supplement and other filings we make with the SEC from time to time, which are incorporated by reference herein, before making an investment decision pursuant to this prospectus and any accompanying prospectus supplement.

Our business, financial condition, results of operations, cash flows and prospects, and your investment in the offered securities, could be materially and adversely affected by any or all of these risks or by additional risks and uncertainties not presently known to us or that we currently deem immaterial that may adversely affect us in the future.

A sale of a substantial number of shares of common stock by the selling shareholders could cause the price of our common stock to decline.

The Resale Shares represent a large number of shares of our common stock, and, following the effectiveness of the Registration Statement of which this prospectus forms a part and the issuance of the Resale Shares to the Sellers (or their permitted designees), such Resale Shares may be sold by the selling shareholders in the public market without restriction. If the selling shareholders sell, or the market perceives that our shareholders intend to sell for various reasons, substantial amounts of the Resale Shares in the public market, the price of our common stock may decline. Additionally, such conditions may make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate.

Table of Contents**DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus and the documents incorporated by reference herein and therein may contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act about us and our subsidiaries. These forward-looking statements are intended to be covered by the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements are not statements of historical fact, and can be identified by the use of forward-looking terminology such as "believes," "expects," "may," "will," "could," "should," "projects," "plans," "goal," "targets," "potential," "estimates," "pro forma," "seeks," "intends" or "anticipates" or the negative thereof or comparable terminology, although not all forward-looking statement contain these identifying words.

The forward-looking statements in this prospectus and the documents incorporated herein by reference include, among other things, statements about:

- our estimates regarding expenses, future revenue, cash flow, capital requirements and timing and availability of and the need for additional financing;
- our ability to maintain or expand our relationships, profitability and contracts with our key commercial partners, including the impact of changes in consumer demand for the products we manufacture for our commercial partners;
- our ability to grow and diversify our business with new customers, including our ability to meet desired project outcomes with development customers;
- the extent to which the ongoing COVID-19 pandemic continues to disrupt our business operations and financial condition and the business operations and financial condition of our customers;
- our ability to operate under increased leverage and associated lending covenants; to pay existing required interest and principal amortization payments when due; and/or to obtain acceptable refinancing alternatives;
- the performance of third-party suppliers upon which we depend for Active Pharmaceutical Ingredients, or APIs, excipients, capsules, reagents, etc., and other third parties involved with maintenance of our facilities and equipment;
- our ability to obtain and maintain patent protection for applicable products and defend our intellectual property rights against third-parties;
- pharmaceutical industry market forces that may impact our commercial customers' success and continued demand for the products we produce;
- our ability to recruit or retain key scientific, technical, business development, and management personnel and our executive officers;
- our ability to comply with stringent U.S. and foreign government regulation in the manufacture of pharmaceutical products, including cGMP compliance and U.S. Drug Enforcement Agency, or DEA, compliance and other relevant regulatory authorities applicable to our business; and
- our ability to integrate the IriSys business successfully and the risk that we may not realize the expected benefits of such acquisition.

We caution our shareholders and other readers not to place undue reliance on such statements.

You should read this prospectus and the documents incorporated by reference completely and with the understanding that our actual future results may be materially different from what we currently expect. Our business and operations are and will be subject to a variety of risks, uncertainties and other factors. Consequently, actual results may materially differ from those contained in any forward-looking statements. Such

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risks, uncertainties and other factors that could cause actual results to differ from those projected include, but are not limited to, the risk factors set forth herein under the title “Risk Factors,” in our Annual Report on Form 10-K for the year ended December 31, 2020, as may be amended, supplemented or superseded from time to time by other reports we file with the SEC, and elsewhere in the documents incorporated by reference into this prospectus and any applicable prospectus supplement.

You should assume that the information appearing in this prospectus and any document incorporated herein by reference is accurate as of its date only. Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which the statement is made. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. All written or oral forward-looking statements attributable to us or any person acting on our behalf made after the date of this prospectus and any applicable prospectus supplement are expressly qualified in their entirety by the risk factors and cautionary statements contained in and incorporated by reference into this prospectus and any applicable prospectus supplement. Unless required by law, we do not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date of this prospectus and any applicable prospectus supplement or to reflect the occurrence of unanticipated events.

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We will not receive any proceeds from the sale of the Resale Shares by the selling shareholders.

The selling shareholders will receive all of the net proceeds from the sale of the Resale Shares under this prospectus. The selling shareholders will pay any underwriting, broker-dealer or agent discounts, concessions and commissions and expenses incurred by the selling shareholders for accounting, tax, and legal services and any other expenses incurred by the selling shareholders in disposing of the Resale Shares, unless otherwise agreed to by us. We will bear all other costs, fees and expenses incurred in effecting the registration of the Resale Shares covered by this prospectus.

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SELLING SHAREHOLDERS

This prospectus relates to the offering of up to 9,302,718 shares of our common stock to be issued to the selling shareholders named herein pursuant to the Purchase Agreement in connection with the IriSys Acquisition in August 2021, referred to herein as the Resale Shares. We will issue the Resale Shares to the selling shareholders listed below on or about February 11, 2022 pursuant to our contractual obligations set forth in the Purchase Agreement. As a result of the IriSys Acquisition, IriSys is now a wholly owned subsidiary of the Company. The Resale Shares will be issued to the former equity holders (or their permitted designees) of IriSys without registration under the Securities Act in reliance on an exemption from registration under Section 4(a)(2) of the Securities Act.

Certain Information Concerning the Selling Shareholders

The following table sets forth, based on information provided to us by or on behalf of the selling shareholders or known to us, the names of the selling shareholders, the nature of any position, office or other material relationship, if any, which the selling shareholders have had, within the past three years, with us or with any of our predecessors or affiliates, and the number of shares of our common stock beneficially owned by the selling shareholders before and after this offering. The number of shares owned are those beneficially owned, as determined under the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under these rules, beneficial ownership includes any shares of common stock as to which a person has sole or shared voting power or investment power and any shares of common stock that the person has the right to acquire within 60 days through the exercise of any option, warrant or right, through conversion of any security or pursuant to the automatic termination of a power of attorney or revocation of a trust, discretionary account or similar arrangement. Except as otherwise set forth herein, none of the selling shareholders are a broker-dealer or an affiliate of a broker-dealer.

The total number of Resale Shares saleable pursuant to this prospectus is 9,302,718.

For purposes of calculating the number of Resale Shares saleable pursuant to this prospectus, we have assumed that all of the Resale Shares issuable to the selling shareholders covered by this prospectus are sold and that the selling shareholders acquire no additional shares of common stock before the completion of this offering. However, because the selling shareholders can offer all, some, or none of their Resale Shares, no definitive estimate can be given as to the number of Resale Shares that the selling shareholders will ultimately offer or sell under this prospectus or the number of Resale Shares that will be held by the selling shareholders upon termination of this offering.

Name of Selling Shareholder	Beneficial Ownership of Common Stock Prior to the Offering		Common Stock Saleable Pursuant to this Prospectus	Beneficial Ownership of Common Stock After the Offering ⁽¹⁾	
	Number of Shares	Percent of Class ⁽²⁾		Number of Shares	Percent of Class ⁽²⁾
Yakatan Family Trust	5,000,000	8.94%	5,000,000	—	—%
Brooke Yakatan	473,531	*%	473,531	—	—%
Robert Giannini	359,377	*%	359,377	—	—%
Ren Guang Dong and Jin Jean Wang	794,106	1.42%	746,335	47,771	*%
Jerrie Teng	59,896	*%	59,896	—	—%
Continent Pharmaceuticals U.S., Inc.	1,142,992	2.04%	1,142,992	—	—%
EPS Americas Corp.	1,520,587	2.72%	1,520,587	—	—%
TOTAL	9,350,483	16.72%	9,302,718⁽¹⁾	—	—%

* Less than 1%.

(1) The total number of shares of our common stock saleable pursuant to this prospectus is 9,302,718. For purposes of this table, we have assumed that all of the Resale Shares issuable to the selling shareholders

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covered by this prospectus will be sold and that the selling shareholders will not acquire any additional shares of common stock before the completion of this offering. However, as the selling shareholders can offer all, some, or none of their Resale Shares, no definitive estimate can be given as to the number of Resale Shares that the selling shareholders will ultimately offer or sell under this prospectus and the number of Resale Shares that will be held by the selling shareholders upon the termination of this offering.

- (2) Calculated based on 55,917,253 shares to be issued and outstanding as of February 11, 2022 (assuming the issuance of the Resale Shares on that date and 46,614,535 shares of common stock issued and outstanding as of September 8, 2021).

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DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our Second Amended and Restated Articles of Incorporation, as amended, or our Articles of Incorporation, Third Amended and Restated Bylaws, or our Bylaws, and the Pennsylvania Business Corporation Law of 1988, or the PBCL, are summaries and are qualified in their entirety by reference to our Articles of Incorporation and our Bylaws. We have filed copies of these documents with the SEC as exhibits to the registration statement of which this prospectus forms a part.

Authorized Capital Stock

Pursuant to our Articles of Incorporation, our authorized capital stock consists of 95,000,000 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 September 8, 2021, there were 46,614,535 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.

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.

Listing

Our common stock is listed on Nasdaq under the symbol "REPH."

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Transfer Agent and Registrar

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

Anti-Takeover Provisions of Pennsylvania Law, our Articles of Incorporation, and our 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;

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

Table of Contents**PLAN OF DISTRIBUTION****Resales by Selling Shareholders**

We are registering the resale of the Resale Shares on behalf of the selling shareholders pursuant to the terms of the Purchase Agreement we entered into in connection with the IriSys Acquisition, which agreement is incorporated herein by reference.

Any or all of the selling shareholders may offer the Resale Shares from time to time following the issuance of the Resale Shares to the selling shareholders on or about February 11, 2022, either in increments or in a single transaction. The selling shareholders may also decide not to sell all of the Resale Shares they are permitted to sell under this prospectus. The selling shareholders will act independently of us in making decisions with respect to the timing, manner and size of each sale.

The term “selling shareholders” also includes persons who obtain the Resale Shares from the selling shareholders as a gift, on foreclosure of a pledge, in a distribution or dividend of assets by an entity to its equity holders or partners, as an assignee, transferee or other successor-in-interest, or in another private transaction.

Types of Sale Transactions

The selling shareholders may sell the Resale Shares offered by this prospectus at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at negotiated prices or at fixed prices that may be changed.

Sales of the Resale Shares by the selling shareholders may occur from time to time in one or more of the following types of transactions (which may include block transactions):

- disposition on any national securities exchange on which our common stock may be listed at the time of the sale;
- disposition in the over-the-counter markets;
- 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;
- writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- disposition in one or more underwritten offerings in a best efforts basis or firm commitment basis;
- broker-dealers may agree with the selling shareholders to sell a specified number of such shares at a stipulated price per share;
- under Rule 144, Rule 144A or Regulation S under the Securities Act, if available, rather than under this prospectus;
- a combination of any such methods of sale; or
- any other method permitted by applicable law.

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We do not know of specific arrangements by the selling shareholders for the sale of their Resale Shares. The aggregate proceeds to the selling shareholders from any sale of the Resale Shares offered by them will be the purchase price of the Resale Shares less discounts or commissions, if any. The selling shareholders reserve the right to accept and, together with their respective agents from time to time, to reject, in whole or in part, any proposed purchase of the Resale Shares to be made directly or through agents. We will not receive any of the proceeds from any such sale.

The selling shareholders and any broker-dealers or agents that participate in the sale of the Resale Shares may be deemed to be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. The selling shareholders are subject to the prospectus delivery requirements of the Securities Act.

We have agreed to indemnify selling shareholders against certain liabilities arising under the Securities Act from sales of the Resale Shares. The selling shareholders may agree to indemnify any agent, broker or dealer that participates in sales of the Resale Shares against liabilities arising under the Securities Act from sales of the Resale Shares.

Under the Purchase Agreement, we agreed to use our reasonable best efforts to keep the registration statement of which this prospectus is a part effective until the earlier of December 31, 2022 and the date as of which all holders of the Resale Shares may sell such securities without any limitation as to volume or manner of sale restrictions pursuant Rule 144 of the Securities Act.

We have agreed to pay certain expenses incurred in connection with the registration and sale of the Resale Shares covered by this prospectus, including, among other things, all registration and filing fees (including SEC, Nasdaq and state blue sky registration and filing fees), printing expenses, and the fees and disbursements of our outside counsel and independent accountants, but excluding underwriting discounts and commissions.

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LEGAL MATTERS

The validity of the issuance of the common stock offered by this prospectus will be passed upon for us by Troutman Pepper Hamilton Sanders LLP, Philadelphia, Pennsylvania.

Table of Contents**EXPERTS**

The consolidated financial statements of Recro Pharma, Inc. as of December 31, 2020 and 2019, and for each of the years in the three-year period ended December 31, 2020, 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. The audit report covering the December 31, 2020 consolidated financial statements refers to a change in the method of accounting for leases as of January 1, 2019.

The financial statements of IriSys, LLC. as of December 31, 2020 and 2019 and for the years then ended have been audited by PKF San Diego, LLP , an independent auditor, as stated in their report thereon which report expresses an unqualified opinion, and is incorporated by reference in this prospectus and registration statement in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

Table of Contents**WHERE YOU CAN FIND MORE INFORMATION**

This prospectus forms part of a registration statement on Form S-3 filed with the SEC under the Securities Act. This prospectus does not contain all the information set forth in the registration statement and the exhibits to the registration statement or the documents incorporated by reference herein and therein. For further information with respect to us and the securities that we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement and the documents incorporated by reference herein and therein.

We are currently subject to the reporting requirements of the Exchange Act, and in accordance therewith, file periodic reports, proxy statements and other information with the SEC. Our SEC filings are available to you on the SEC's website at <http://www.sec.gov> and in the "Investors" section of our website at www.recrocdmo.com. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

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DISCLOSURE OF SEC POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the Company pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

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INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this prospectus and any applicable prospectus supplement:

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2020, filed with the SEC on February 26, 2021;
- our Quarterly Reports on Form 10-Q for the fiscal quarters ended [March 31, 2021](#) and [June 30, 2021](#), filed with the SEC on May 6, 2021 and August 9, 2021, respectively;
- our Current Reports on Form 8-K and Form 8-K/A (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) filed with the SEC on [January 14, 2021](#), [February 16, 2021](#), [February 23, 2021](#), [April 21, 2021](#), [May 11, 2021](#), [May 13, 2021](#), [June 16, 2021](#), [August 13, 2021](#), and [September 10, 2021](#);
- the information specifically incorporated by reference into our Annual Report on [Form 10-K](#) for the year ended December 31, 2020 from our [Definitive Proxy Statement](#) on Form DEF 14A, filed with the SEC on March 25, 2021; and
- 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, including Exhibit 4.3 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

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 (other than Current Reports on Form 8-K furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) after the date of the initial filing of the registration statement of which this prospectus forms a part 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.

The documents incorporated by reference into this prospectus are also available on our corporate website at www.recrocdmo.com under the heading “Investors.” Information contained on, or that can be accessed through, our website is not part of this prospectus, and you should not consider information on our website to be part of this prospectus or any prospectus supplement unless specifically incorporated herein by reference. We will provide to each person, including any beneficial owner, to whom a prospectus is delivered a copy of any or all of the documents incorporated by reference in this prospectus and any prospectus supplement free of charge upon request for such documents in writing or by telephone at the following address:

Recro Pharma, Inc.
1 E. Uwchlan Ave, Suite 112
Exton, Pennsylvania 19341
Telephone: (770) 534-8239



**9,302,718 SHARES
COMMON STOCK**

PROSPECTUS

Neither we nor the selling shareholders authorized any dealer, salesperson, or other person to give you written information other than this prospectus or to make representations as to matters not stated in this prospectus. You must not rely on unauthorized information. This prospectus is not an offer to sell these securities or our solicitation of your offer to buy these securities in any jurisdiction where that would not be permitted or legal. Neither the delivery of this prospectus nor any sales made hereunder after the date of this prospectus shall create an implication that the information contained herein or the affairs of the Company have not changed since the date of this prospectus.

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

The following is an estimate of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby, other than the SEC registration fee.

SEC registration fee	\$ 2,426
Legal fees and expenses	\$ 50,000
Accounting fees and expenses	\$ 30,000
Printing and miscellaneous fees and expenses	\$ 20,000
Total	<u>\$ 102,426</u>

Item 15. Indemnification of Officers and Directors.

Our Bylaws and Articles of Incorporation provide that, to the fullest extent permitted by Pennsylvania law, any of our officers or directors 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, investigative or through arbitration, by reason of fact that he/she is or was our director or officer, or is or was serving in any capacity at the request or for our benefit 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 us for any expense, liability and loss (including, without limitation, attorneys' fees, judgments, fines, taxes, penalties, and amounts paid or to be paid in settlement) reasonably incurred in connection with such proceeding, unless where the individual's act or failure to act giving rise to the claim for indemnification is determined by a court to have constituted self-dealing, willful misconduct or recklessness. 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 us 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.

Pennsylvania law requires that to the extent that one of our directors or officers 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. Our 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 us 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 us 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.

We have entered into indemnification agreements with each of our directors and executive officers. These agreements require us to, among other things, indemnify each director and officer to the fullest extent permitted by law and advance expenses to each indemnitee in connection with any proceeding in which indemnification is available.

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

a) *Exhibits.*

Exhibit Numbers	Exhibit Description
3.1	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).
3.2	Articles of Amendment (incorporated herein by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2021, filed with the SEC on May 6, 2021).
3.3	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).
5.1*	Opinion of Troutman Pepper Hamilton Sanders LLP as to the legality of the securities being registered.
10.1	Unit Purchase Agreement, dated August 13, 2021, by and among Recro Pharma, Inc., IriSys, LLC, the Sellers (as defined therein), and IriSys, Inc. as the Seller's Representative (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 13, 2021).
23.1*	Consent of KPMG LLP.
23.2*	Consent of PKF San Diego, LLP.
23.3*	Consent of Troutman Pepper Hamilton Sanders LLP (included in Exhibit 5.1).
24.1*	Power of Attorney (included on signature pages to the registration statement).

* Filed herewith.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

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

- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in the 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with

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or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

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

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

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

(A) each prospectus filed pursuant to Rule 424(b)(3) as part of a registration statement as of the date the filed prospectus was deemed part of and included in the registration statement.

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

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

(6) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, 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 the City of Exton, Commonwealth of Pennsylvania, on September 10, 2021.

RECRO PHARMA, INC.

By: /s/ J. David Enloe, Jr.
J. David Enloe, Jr.
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints J. David Enloe, Jr. and Ryan D. Lake, his or her true and lawful attorney-in-fact and agent with full power of substitution and re-substitution, for him or her and in his or her name, place and stead, in any and all capacities to sign any or all amendments (including, without limitation, post-effective amendments) to this registration statement, any related registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and any or all pre- or post-effective amendments thereto, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or any substitute or substitutes for him, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ J. David Enloe, Jr.</u> J. David Enloe, Jr.	President, Chief Executive Officer and Director (Principal Executive Officer)	September 10, 2021
<u>/s/ Ryan D. Lake</u> Ryan D. Lake	Chief Financial Officer (Principal Financial Officer)	September 10, 2021
<u>/s/ William L. Ashton</u> William L. Ashton	Director	September 10, 2021
<u>/s/ Michael Berelowitz</u> Michael Berelowitz	Director	September 10, 2021
<u>/s/ Winston J. Churchill</u> Winston J. Churchill	Director	September 10, 2021
<u>/s/ Gerri A. Henwood</u> Gerri A. Henwood	Director	September 10, 2021

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Signature	Title	Date
/s/ James C. Miller James C. Miller	Director	September 10, 2021
/s/ Laura L. Parks Laura L. Parks	Director	September 10, 2021
/s/ Bryan M. Reasons Bryan M. Reasons	Director	September 10, 2021
/s/ Wayne B. Weisman Wayne B. Weisman	Director	September 10, 2021

Troutman Pepper Hamilton Sanders LLP
 3000 Two Logan Square, Eighteenth and Arch Streets
 Philadelphia, PA 19103-2799

troutman.com



September 10, 2021

Recro Pharma, Inc.
 1 E. Uwchlan Ave, Suite 112
 Exton, Pennsylvania 19341

Re: Securities Registered under Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Recro Pharma, Inc., a Pennsylvania corporation (the “**Company**”), in connection with the resale from time to time by the selling stockholders named in the Registration Statement on Form S-3 under the Securities Act of 1933, as amended (the “**Securities Act**”), filed with the Securities and Exchange Commission (the “**Commission**”) on the date hereof (the “**Registration Statement**”) by the Company in connection with the resale of an aggregate of 9,302,718 shares (the “**Shares**”) of the Company’s common stock, par value \$0.01 per share (the “**Common Stock**”).

This opinion is being furnished to you in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the related prospectus contained therein (the “**Prospectus**”), other than as expressly stated herein with respect to the resale of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents, and the conformity to authentic original documents of all documents submitted to us as copies (including pdfs). We are opining herein as to the Business Corporation Law of 1988 of the Commonwealth of Pennsylvania, and we express no opinion with respect to any other laws.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, the issuance of the Shares has been duly authorized by all necessary corporate action of the Company, and such Shares, when issued, shall be validly issued, fully paid and nonassessable.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Securities Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the Prospectus under the heading “Legal Matters.” In giving such consent, we do not thereby admit that we are in the category of persons whose

consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Troutman Pepper Hamilton Sanders LLP
TROUTMAN PEPPER HAMILTON SANDERS LLP

Consent of Independent Registered Public Accounting Firm

We consent to the use of our report dated February 26, 2021, with respect to the consolidated financial statements of Recro Pharma, Inc., incorporated herein by reference and to the reference to our firm under the heading “Experts” in the prospectus.

/s/ KPMG LLP

Philadelphia, PA

September 10, 2021

INDEPENDENT AUDITORS' CONSENT

We hereby consent to the incorporation by reference in this Registration Statement on FormS-3 of Recro Pharma, Inc. of our report dated May 18, 2021 relating to the financial statements of IriSys, LLC as of and for the years ended December 31, 2020 and 2019, which appear in Recro Pharma Inc.'s Current Report on Form 8-K/A filed on September 10, 2021.

We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PKF San Diego, LLP

PKF San Diego, LLP
(formerly PKF, LLP)

San Diego, California
September 10, 2021