UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3 **REGISTRATION STATEMENT**

UNDER THE SECURITIES ACT OF 1933

Reneo Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)

47-2309515 (I.R.S. Employer Identification Number)

Reneo Pharmaceuticals, Inc. 18575 Jamboree Road, Suite 275-S Irvine, California 92612
(858) 283-0280
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Gregory J. Flesher
President and Chief Executive Officer Reneo Pharmaceuticals, Inc. 18575 Jamboree Road, Suite 275-S Irvine, California 92612

(858) 283-0280 (Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to: Jason L. Kent Wade W. Andrews Cooley LLP 55 Hudson Yards New York, New York 10001 (212) 479-6000

| From time to time after the effective date of this Registration Statement (Approximate date of commencement of proposed sale to the public) | | |
|--|--|-------------|
| If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please of | check the following box. \square | |
| If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 und offered only in connection with dividend or interest reinvestment plans, check the following box. | der the Securities Act of 1933, other than sec | curities |
| If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check registration statement number of the earlier effective registration statement for the same offering. \Box | k the following box and list the Securities A | .ct |
| 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 earlier effective registration statement for the same offering. \Box | ist the Securities Act registration statement | number |
| if this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall beconsursuant to Rule 462(e) under the Securities Act, check the following box. □ | me effective upon filing with the Commissi | on |
| If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register a securities pursuant to Rule 413(b) under the Securities Act, check the following box. \Box | dditional securities or additional classes of | |
| indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller re See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company | | ompany |
| Large accelerated filer \Box | Accelerated filer | |
| Non-accelerated filer ⊠ | Smaller reporting company | \boxtimes |
| | Emerging growth company | \boxtimes |
| If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. \Box | complying with any new or revised finance | íal |
| The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective | | |

Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling stockholders may not sell these securities or accept an offer to buy these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting offers to buy these securities in any state where such offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JUNE 5, 2023

PROSPECTUS



625,000 Shares of Common Stock

This prospectus relates to the resale from time to time of up to 625,000 shares of our common stock by the selling stockholders identified in this prospectus, all of which were issued by us in a private placement on May 9, 2023. We are not selling any shares of common stock under this prospectus and we will not receive any proceeds from the sale by the selling stockholders of the shares offered by this prospectus.

Sales of the shares by the selling stockholders may occur at fixed prices, at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices. The selling stockholders may sell shares to or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions from the selling stockholders, the purchasers of the shares, or both.

We are paying the cost of registering the shares of common stock covered by this prospectus as well as various related expenses. The selling stockholders are responsible for all selling commissions, transfer taxes and other costs related to the offer and sale of their shares.

Our common stock is traded on the Nasdaq Global Market under the symbol "RPHM." On June 2, 2023, the last reported sales price of our common stock was \$8.18 per share.

We are an "emerging growth company" as defined by the Jumpstart Our Business Startups Act of 2012, and as such, have elected to comply with reduced public company reporting requirements for this prospectus and the documents incorporated by reference herein and may elect to comply with reduced public company reporting requirements in future filings.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page 6 of this prospectus as well as those 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.

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 , 2023.

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ABOUT THIS PROSPECTUS

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

Neither we nor the selling stockholders have authorized anyone to provide you with information other than the information provided or incorporated by reference in this prospectus and your reliance on any unauthorized information or representation is at your own risk. This prospectus may be used only in jurisdictions where offers and sales of these securities are permitted. You should assume that the information appearing in this prospectus is accurate only as of the date of this prospectus and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, or any sale of our common stock. Our business, financial condition and results of operations may have changed since those dates.

A prospectus supplement may add to, update or change the information contained in this prospectus. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the heading "Where You Can Find More Information."

In this prospectus, references to "Reneo Pharmaceuticals," "Reneo," the "Company," the "registrant," "we," "us," and "our" refer to Reneo Pharmaceuticals, Inc. The phrase "this prospectus" refers to this prospectus and any applicable prospectus supplement, unless the context requires otherwise.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus and any applicable prospectus supplement contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the Private Securities Litigation Reform Act of 1995, as amended, that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus and any applicable prospectus supplement, including statements regarding our future results of operations and financial position; business strategy; research and development costs; the anticipated timing, costs and conduct of our clinical trials and preclinical studies for our only product candidate, mavodelpar, including the timing and availability of data from such trials; our expectations regarding the potential market size and size of the potential patient populations for mavodelpar, if approved; the timing and likelihood of regulatory filings and approvals for mavodelpar; our ability to commercialize mavodelpar, if approved; the pricing and reimbursement of mavodelpar, if approved; the potential benefits of strategic collaborations and our ability to enter into strategic arrangements; the timing and likelihood of success, plans and objectives of management for future operations; the potential to develop future product candidates and future results of anticipated product development efforts; the scope of protection we are able to establish and maintain for intellectual property rights covering mavodelpar, including the projected terms of patent protection; developments and projections relating to our competitors and our industry, including competing products; our expected future financing needs; and our liquidity and anticipated cash needs, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus and any applicable prospectus supplement are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this prospectus or the information incorporated by reference in this prospectus, as applicable, and are subject to a number of risks, uncertainties and assumptions described under the sections in this prospectus and the documents incorporated by reference herein entitled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus and any applicable prospectus supplement. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we undertake no obligation to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the SEC after the date of this prospectus. See the section titled "Where You Can Find More Information."

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based on information available to us as of the date of this prospectus, and while we believe such information provides a reasonable basis for these statements, such information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely on these statements.

PROSPECTUS SUMMARY

This summary highlights important features of this offering and the information included or incorporated by reference in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should carefully read this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus and any applicable prospectus supplement before you invest in our common stock.

Company Overview

We are a clinical-stage pharmaceutical company focused on the development and commercialization of therapies for patients with rare genetic mitochondrial diseases, which are often associated with the inability of mitochondria to produce adenosine triphosphate. Our lead product candidate, mavodelpar (formally known as REN001), is a potent and selective agonist of the peroxisome proliferator-activated receptor delta, or PPARd. Mavodelpar has been shown to increase transcription of genes involved in mitochondrial function and increase fatty acid oxidation, and may increase production of new mitochondria.

The PPAR family of nuclear hormone receptors, PPAR α , PPARg, and PPARd, control the transcription of genes critical for regulating energy metabolism and homeostasis. PPARd is highly expressed in muscle, kidney, brain, and liver tissue. Activation of PPARd results in changes in the expression of genes involved with multiple aspects of energy metabolism including uptake of fatty acids, utilization of fatty acids as an energy source, and mitochondrial biogenesis.

Increases in PPARd activity also correlate with a shift in muscle tissue towards oxidative, fat-consuming type I fibers that are associated with endurance as opposed to glycolytic, type II fibers. In preclinical and clinical studies, increased PPARd activity through transgenic overexpression or pharmacological activation increases muscular strength and endurance across a variety of functional measures. Mavodelpar was studied in healthy male volunteers with one leg immobilized to produce muscle atrophy. Compared to placebo, administration of mavodelpar resulted in statistically significant increases in expression of genes involved in mitochondrial oxidative phosphorylation, and statistically significant improvements in muscle strength. Mavodelpar was studied in an open-label trial in patients with primary mitochondrial myopathy, or PMM. Patients with PMM in this trial exhibited improved function, reduced symptoms, and increased expression of genes involved in mitochondrial function. Mavodelpar was also studied in an open-label trial in patients with long-chain fatty acid oxidation disorder, or LC-FAOD. In this trial, patients with LC-FAOD due to certain gene defects exhibited improved function and reduced symptoms.

As a PPARd agonist, mavodelpar may benefit patients with genetic mitochondrial myopathies who experience weakness, fatigue, or deterioration in muscle due to impaired mitochondrial energy production. Patients with these diseases are unable to perform many everyday activities, can experience cardiomyopathy and other organ dysfunction, and typically have a reduced life expectancy. We are currently developing mavodelpar in rare genetic diseases that typically present with myopathy, including PMM and LC-FAOD.

There are currently no approved therapies for the treatment of PMM, representing a high unmet medical need.

We have received orphan drug designations for mavodelpar in the United States for PMM and LC-FAOD. Additionally, we have received orphan drug designations for mavodelpar for mitochondrial encephalomyopathy, lactic acidosis, and neurological stroke-like episodes, a form of PMM, and long-chain 3-hydroxy acyl-CoA dehydrogenase, or LCHAD, a form of LC-FAOD in Europe.

We have received Fast Track designation from the U.S. Food and Drug Administration, or the FDA, for mavodelpar for the treatment of patients with PMM and LC-FAOD due to LCHAD deficiency, one of the

predominant LC-FAOD genotypes. We are continuing to collaborate with the FDA and European regulatory agencies to advance the LC-FAOD program which will include patients with LCHAD as well as other genotypes. These discussions include obtaining alignment on the study design, patient population, and endpoints for the LC-FAOD program's next clinical trial.

Private Placement

On May 2, 2023, we entered into a Securities Purchase Agreement, or the Purchase Agreement, with Abingworth Bioventures 8 LP, or ABV 8, the selling stockholder named in this prospectus, pursuant to which we issued and sold 625,000 shares of our common stock to ABV 8 on May 9, 2023 at a price of \$8.00 per share. We received total net proceeds from this private placement, or the Private Placement, of approximately \$4.6 million, after deducting advisor fees and other estimated fees and expenses.

The shares of common stock issued to ABV 8 were not initially registered under the Securities Act or any state securities laws. We relied on the exemption from the registration requirements afforded by Section 4(a)(2) under the Securities Act for the Private Placement. In connection with its execution of the Purchase Agreement, ABV 8 represented to us that it is an "accredited investor" as defined in Regulation D of the Securities Act and that the securities purchased by ABV 8 were being acquired solely for its own account and for investment purposes and not with a present view to its future public sale or distribution.

Under the terms of the Purchase Agreement, we agreed to prepare and file, within 30 days after the closing, this registration statement to register for resale the shares of our common stock issued under the Purchase Agreement and to cause this registration statement to become effective within a specified time after the filing of the registration statement.

Corporate Information

We were incorporated in Delaware in September 2014. Our principal executive offices are located at 18575 Jamboree Road, Suite 275-S, Irvine, California 92612, and our telephone number is (858) 283-0280. We also occupy an office in Sandwich, United Kingdom. Our corporate website address is www.reneopharma.com. Our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. Our design logo, "Reneo," and our other registered and common law trade names, trademarks and service marks are the property of Reneo Pharmaceuticals, Inc.

The Offering

Common stock offered by the selling stockholders 625,000 shares of our common stock held by the selling stockholders.

Terms of the offering Each selling stockholder will determine when and how it will sell the common stock offered in

this prospectus, as described in "Plan of Distribution."

Use of proceeds We will not receive any proceeds from the sale of the shares of common stock covered by this

prospectus.

Risk factors See "Risk Factors" beginning on page 6, for a discussion of factors you should carefully

consider before deciding to invest in our common stock.

Nasdaq Global Market symbol RPHM

The selling stockholders named in this prospectus may offer and sell up to 625,000 shares of our common stock. Our common stock is currently listed on the Nasdaq Global Market under the symbol "RPHM." Shares of our common stock that may be offered under this prospectus will be fully paid and non-assessable. We will not receive any of the proceeds of sales by the selling stockholders of any of the common stock covered by this prospectus. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholders for offer and resale, we are referring to the shares of common stock that have been issued to ABV 8 in the Private Placement as described above. When we refer to the selling stockholders in this prospectus, we are referring to the selling stockholders identified in this prospectus and, as applicable, their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully review the risks and uncertainties described under the heading "Risk Factors" in our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q, as filed with the SEC, which are incorporated by reference into this prospectus, as well as in any applicable prospectus supplement, before deciding whether to purchase the common stock being registered pursuant to the registration statement of which this prospectus is a part. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock, and the occurrence of any of these risks might cause you to lose all or part of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. Please also read carefully the section above titled "Special Note Regarding Forward-Looking Statements."

USE OF PROCEEDS

We will not receive any of the proceeds from the sale or other disposition of shares of our common stock held by the selling stockholders pursuant to this prospectus.

We will bear the out-of-pocket costs, expenses and fees incurred in connection with the registration of shares of our common stock to be sold by the selling stockholders pursuant to this prospectus. Other than registration expenses, the selling stockholders will bear underwriting discounts, commissions, placement agent fees or other similar expenses payable with respect to sales of shares of our common stock.

SELLING STOCKHOLDERS

The selling stockholders may sell some, all or none of their shares. We do not know how long the selling stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale or other disposition of any of the shares. The shares covered hereby may be offered from time to time by the selling stockholders. As a result, we cannot estimate the number of shares of common stock each of the selling stockholders will beneficially own after termination of sales under this prospectus. In addition, each of the selling stockholders may have sold, transferred or otherwise disposed of all or a portion of its shares of common stock since the date on which it provided information for this table.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to our common stock. Generally, a person "beneficially owns" shares of our common stock if the person has or shares with others the right to vote those shares or to dispose of them, or if the person has the right to acquire voting or disposition rights within 60 days.

The information in the table below and the footnotes thereto regarding shares of common stock to be beneficially owned after the offering assumes the sale of all shares being offered by the selling stockholders under this prospectus. The percentage of shares owned prior to and after the offering is based on 33,657,789 shares of common stock outstanding as of June 1, 2023. This information has been obtained from the selling stockholders or in Schedules 13G or 13D and other public documents filed with the SEC.

| | Before Offering | | | After Offering | | |
|---------------------------------|-------------------------------------|---|---------------------|-------------------------------------|---|--|
| | Number of Shares Beneficially | Percentage of Shares Beneficially | Number of Shares | Number of Shares Beneficially | Percentage of Shares Beneficially | |
| Name and Address | Owned | Owned | Offered(1) | Owned | Owned | |
| Abingworth Bioventures 8 LP | | | | | | |
| c/o Abingworth LLP | | | | | | |
| 38 Jermyn Street | | | | | | |
| London SW1Y 6DN, United Kingdom | 2,730,457 (2) | 8.1% | 625,000 (2) | 2,105,457 (2) | 6.2% | |

- (1) For purposes of this table, we have assumed that, after completion of the offering, none of the shares covered by this prospectus will be held by the selling stockholders.
- (2) Consists of (i) 2,073,957 shares of common stock held prior to the Private Placement by ABV 8, (ii) 31,500 shares of common stock subject to stock options held by Bali Muralidhar, M.D., Ph.D., a managing partner of Abingworth LLP and one of our directors, that are exercisable within 60 days of June 2, 2023 and (iii) 625,000 shares of common stock purchased in the Private Placement by ABV 8. The Carlyle Group Inc., which is a publicly traded entity listed on the Nasdaq Stock Market, is the sole shareholder of Carlyle Holdings I GP Inc., which is the sole member of Carlyle Holdings I GP Sub L.L.C., which is the general partner of Carlyle Holdings I L.P., which, with respect to the securities reported herein, is the managing member of CG Subsidiary Holdings L.L.C., which is the managing member of TC Group, L.L.C., which is the managing member of Carlyle Investment Management, L.L.C., which is the sole member of Carlyle Genesis UK LLC, which is the principal member of Abingworth LLP. ABV 8 has delegated to Abingworth LLP all investment and dispositive power over the securities held of record by ABV 8. Accordingly, each of the foregoing entities may be deemed to share beneficial ownership of the securities held of record by ABV 8, but each disclaims beneficial ownership of such securities. The shares issuable upon exercise of the options held by Dr. Muralidhar may be deemed to be beneficially owned by Abingworth LLP. The address of ABV 8 is c/o Abingworth LLP, 38 Jermyn Street, London SW1Y 6DN, United Kingdom.

Relationship with Selling Stockholders

As discussed in greater detail above under the section "Prospectus Summary—Private Placement," on May 2, 2023, we entered into the Purchase Agreement with ABV 8 pursuant to which we issued and sold shares of common stock to ABV 8 and agreed with ABV 8 to file this registration statement to enable the resale of the shares of common stock covered by this prospectus. Dr. Muralidhar is a member of our board of directors and a managing partner of Abingworth LLP.

PLAN OF DISTRIBUTION

We are registering the shares of common stock issued to the selling stockholders in the Private Placement to permit the resale of such shares of common stock by such holders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register such shares of common stock.

Each selling stockholder, which may include donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of its shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be 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 privately negotiated prices.

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

- · ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as
 principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its own account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- through agreements between broker-dealers and the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

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

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

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

The selling stockholders also may resell all or a portion of the shares in open market transactions, rather than under this prospectus, in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

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

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

If underwriters are used in the sale, the shares of common stock will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. In connection with any such underwritten sale of shares of common stock, underwriters may receive compensation from the selling stockholders, for whom they may act as agents, in the form of discounts, concessions or commissions. If the selling stockholders use an underwriter or underwriters to effectuate the sale of shares of common stock, we and/or they will execute an underwriting agreement with those underwriters at the time of sale of those shares of common stock. To the extent required by law, the names of the underwriters will be set forth in a prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes the prospectus supplement and the accompanying prospectus used by the underwriters to sell those securities. The obligations of the underwriters to purchase those shares of common stock will be subject to certain conditions precedent, and unless otherwise specified in a prospectus supplement, the underwriters will be obligated to purchase all the shares of common stock offered by such prospectus supplement if any of such shares of common stock are purchased. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares of common stock of the selling stockholders. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, and the selling stockholders may be entitled to contribution. We may be indemnified by the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act that may arise from any written information furnished to us by the selling stockholders specifically for use in this prospectus, or we may be entitled to contribution.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus forms a part effective until the earlier of (1) May 9, 2026 or (2) the date on which all of the shares may be sold without restriction pursuant to Rule 144 of the Securities Act.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, certain legal matters in connection with the offering and the validity of the securities offered by this prospectus, and any supplement thereto, will be passed upon by Cooley LLP, New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2022, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern as described in Note 1 to the consolidated financial statements), which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our consolidated financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities 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. Neither we nor any selling stockholder, agent, underwriter or dealer has authorized any person to provide you with different information. The selling stockholders are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including our company, Reneo Pharmaceuticals, Inc. The address of the SEC website is www.sec.gov.

Copies of certain information filed by us with the SEC are also available on our website at www.reneopharma.com. Information contained in or accessible through our website does not constitute a part of this prospectus and is not incorporated by reference into this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information 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 an important 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, while information that we file later with the SEC will automatically update and supersede the information in this prospectus. We also incorporate by reference into this prospectus the documents listed below and any future filings made by us with the SEC (other than Current Reports or portions thereof 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 and other portions of documents that are furnished, but not filed, pursuant to applicable rules promulgated by the SEC) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the filing and concurrent effectiveness of the registration statement but prior to the termination of all offerings covered by this prospectus:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on March 27, 2023;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 from our definitive proxy statement on Schedule 14A (other than information furnished rather than filed) filed with the SEC on April 26, 2023;
- our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2023, filed with the SEC on May 11, 2023;
- our Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on March 14, 2023, May 3, 2023 and May 5, 2023; and
- the description of our Common Stock in our registration statement on <u>Form 8-A</u> filed with the SEC on April 6, 2021, including any amendments or reports filed for the purpose of updating such description.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits which are specifically incorporated by reference into such documents. You should direct any requests for documents by writing us at 18575 Jamboree Road, Suite 275-S, Irvine, California 92612, Attn: Secretary, or by telephoning us at (858) 283-0280.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated costs and expenses to be incurred by us in connection with the registration of the securities under this registration statement, all of which will be borne by us. All the amounts shown are estimates, except for the SEC registration fee.

| SEC Registration Fee | \$ 577 |
|------------------------------|-----------|
| Legal Fees and Expenses | \$ 50,000 |
| Accounting Fees and Expenses | \$ 15,000 |
| Miscellaneous | \$ 4,423 |
| Total | \$ 70,000 |

Item 15. Indemnification of Directors and Officers

Section 145 of the General Corporation Law of the State of Delaware authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act. Our amended and restated certificate of incorporation permits indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the General Corporation Law of the State of Delaware, and our amended and restated bylaws provide that we will indemnify our directors and officers and permit us to indemnify our employees and other agents, in each case to the maximum extent permitted by the General Corporation Law of the State of Delaware.

We have entered into indemnification agreements with our directors and officers, whereby we have agreed to indemnify our directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee, or agent of our company, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interest of our company.

At present, there is no pending litigation or proceeding involving a director or officer of Reneo Pharmaceuticals, Inc. regarding which indemnification is sought, nor is the registrant aware of any threatened litigation that may result in claims for indemnification.

We maintain insurance policies that indemnify our directors and officers against various liabilities arising under the Securities Act and the Exchange Act that might be incurred by any director or officer in his capacity as such.

Item 16. Exhibits

| Exhibit Number | Description of Document |
|-------------------|--|
| 3.1 | Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 13, 2021). |
| 3.2 | Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 13, 2021). |
| 4.1 | Reference is made to Exhibits 3.1 and 3.2 . |
| 4.2 | Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-254534), filed with the SEC on April 5, 2021). |
| 4.3 | Amended and Restated Investors' Rights Agreement, by and among the Registrant and certain of its stockholders, dated December 9, 2020 (incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-254534), filed with the SEC on March 19, 2021). |
| 4.4 | Securities Purchase Agreement, dated as of May 2, 2023, by and between the Registrant and Abingworth Bioventures 8 LP (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on May 5, 2023). |
| 5.1 | Opinion of Cooley LLP. |
| 23.1 | Consent of independent registered public accounting firm. |
| 23.2 | Consent of Cooley LLP (included in Exhibit 5.1). |
| 24.1 | Power of Attorney (included on signature page). |
| 107 | Filing Fee Table. |

Item 17. Undertakings

The undersigned registrant hereby undertakes:

- (a) (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;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 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 the undertakings set forth in paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1) (iii) of this section 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

Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are incorporated by reference in this registration statement or are contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, 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 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 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.
- (b) The 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 Section 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 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) Insofar as indemnification for liabilities arising under the Securities Act 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 SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Irvine, California on June 5, 2023.

Reneo Pharmaceuticals, Inc.

By: /s/ Gregory J. Flesher

Name: Gregory J. Flesher

Title: President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Gregory J. Flesher and Jennifer P. Lam, and each one of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective on filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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 and on the dates indicated.

| Signature | Title | Date | |
|--|--|--------------|--|
| /s/ Gregory J. Flesher Gregory J. Flesher | President and Chief Executive Officer (Principal Executive Officer) | June 5, 2023 | |
| /s/ Jennifer P. Lam Jennifer P. Lam | Senior Vice President, Finance and Administration (Principal Financial and Accounting Officer) | June 5, 2023 | |
| /s/ Michael Grey Michael Grey | Executive Chairman | June 5, 2023 | |
| /s/ Roshawn Blunt Roshawn Blunt | Director | June 5, 2023 | |
| /s/ Eric Dube Eric Dube, Ph.D. | Director | June 5, 2023 | |
| /s/ Paul W. Hoelscher Paul W. Hoelscher | Director | June 5, 2023 | |

| Signature | Title | Date |
|---|----------|--------------|
| /s/ Edward T. Mathers Edward T. Mathers | Director | June 5, 2023 |
| /s/ Bali Muralidhar Bali Muralidhar, M.D., Ph.D. | Director | June 5, 2023 |
| /s/ Niall O'Donnell Niall O'Donnell, Ph.D. | Director | June 5, 2023 |
| /s/ Stacey D. Seltzer Stacey D. Seltzer | Director | June 5, 2023 |



Jason L. Kent +1 212 479 6044 jkent@cooley.com

June 5, 2023

Reneo Pharmaceuticals, Inc. 18575 Jamboree Road, Suite 275-S Irvine, California 92612

Ladies and Gentlemen:

We have acted as counsel to Reneo Pharmaceuticals, Inc., a Delaware corporation (the "*Company*"), with respect to certain matters in connection with the filing by the Company of a Registration Statement on Form S-3 (the "*Registration Statement*") with the Securities and Exchange Commission (the "*Commission*"), including a related prospectus included in the Registration Statement (the "*Prospectus*"), covering the registration for resale of up to 625,000 shares of the common stock, \$0.0001 par value, of the Company (the "*Shares*").

In connection with this opinion, we have examined and relied upon the Registration Statement, the Prospectus, the Company's certificate of incorporation and bylaws, each as currently in effect, and originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials and the due authorization, execution and delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state antifraud law, rule or regulation relating to securities or to the sale or issuance thereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares have been validly issued and are fully paid and nonassessable.

Cooley LLP 55 HUDSON YARDS NEW YORK, NY 10001 T: (212) 479-6000 F: (212) 479-6275 COOLEY.COM



Page 2 June 5, 2023

We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement. 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 of 1933, as amended, or the rules and regulations of the Commission thereunder.

| Very truly yours, | |
|-----------------------|--|
| Cooley LLP | |
| By: /s/ Jason L. Kent | |
| Jason L. Kent | |

Cooley LLP 55 HUDSON YARDS NEW YORK, NY 10001 T: (212) 479-6000 F: (212) 479-6275 COOLEY.COM

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-3) and related Prospectus of Reneo Pharmaceuticals, Inc. for the registration of 625,000 shares of its common stock and to the incorporation by reference therein of our report dated March 27, 2023, with respect to the consolidated financial statements of Reneo Pharmaceuticals, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2022, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Diego, California June 5, 2023

Calculation of Filing Fee Tables Form S-3

(Form Type)

Reneo Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in its Charter)

<u>Table 1: Newly Registered Securities</u>

| | Security Type | Security Class Title | Fee Calculation Rule | Amount Registered(1)(2) | Proposed Maximum Offering Price Per Share(3) | Maximum Aggregate Offering Price | Fee Rate | Amount of Registration Fee |
|------------|----------------------------|------------------------------|----------------------------|----------------------------|--|---|-------------|----------------------------------|
| Fees to Be | | Common Stock, | | | | | | |
| Paid | Equity | par value \$0.0001 per share | Other | 625,000 | \$8.37 | \$5,231,250.00 | 0.0001102 | \$576.49 |
| | Total Offering Amounts | | | | \$5,231,250.00 | | \$576.49 | |
| | Total Fees Previously Paid | | | | | | | _ |
| | Total Fee Offsets | | | | | | _ | |
| | Net Fee Due | | | | | | \$576.49 | |

- (1) The shares of common stock will be offered for resale by the selling stockholders pursuant to the prospectus contained herein. Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional number of shares of common stock issuable upon stock splits, stock dividends, or other distribution, recapitalization or similar events with respect to the shares of common stock being registered pursuant to this registration statement.
- (2) This registration statement registers the resale of 625,000 outstanding shares of common stock of the Registrant held by the selling stockholders.
- (3) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based on average of high and low price per share of the common stock as reported on the Nasdaq Global Market on June 2, 2023.