UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3 REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

Longboard Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

4275 Executive Square, Suite 950

Delaware (State or other jurisdiction of incorporation or organization)

84-5009619 (I.R.S. Employer Identification Number)

La Jolla, California 92037
(858) 789-9283
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Steven W. Spector, Esq. General Counsel Longboard Pharmaceuticals, Inc. 4275 Executive Square, Suite 950 La Jolla, California 92037 (858) 789-9283

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

Copies to:

Steven M. Przesmicki, Esq. Asa M. Henin, Esq. Cooley LLP 10265 Science Center Drive San Diego, CA 92121 (858) 550-6000 Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective. 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:

333-267674 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. \square 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.

| Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. | | | | | | | | |
|--|--|---------------------------|-------------|--|--|--|--|--|
| Large accelerated filer | | Accelerated filer | | | | | | |
| Non-accelerated filer | | Smaller reporting company | \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 complying with any new or revised financial accounting standards provided pursuant to Section $7(a)(2)(B)$ of the Securities Act. \Box | | | | | | | | |
| The Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended. | | | | | | | | |
| | | | | | | | | |

EXPLANATORY NOTE AND INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

Pursuant to Rule 462(b) under the Securities Act of 1933, as amended, Longboard Pharmaceuticals, Inc. (the "Registrant") is filing this Registration Statement on Form S-3 (this "Registration Statement") with the Securities and Exchange Commission (the "Commission"). This Registration Statement relates to the public offering of securities contemplated by the Registration Statement on Form S-3 (File No. 333-267674) (the "Prior Registration Statement"), which the Registrant filed with the Commission on September 30, 2022, and which the Commission declared effective on October 11, 2022.

The Registrant is filing this Registration Statement for the sole purpose of increasing the aggregate amount of securities offered by the Registrant by a proposed aggregate offering price of \$23,287,313, which includes shares that may be sold by the Registrant in the event the underwriters exercise their option to purchase additional shares of the Registrant's common stock. The additional securities that are being registered for issuance and sale are in an amount and at a price that together represent no more than 20% of the maximum aggregate offering price of unsold securities under the Prior Registration Statement. The information set forth in the Prior Registration Statement and all exhibits to the Prior Registration Statement are hereby incorporated by reference into this Registration Statement.

The required opinion and consents are listed on the Exhibit Index below and filed herewith or incorporated by reference herein.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 16. Exhibits.

(a) Exhibits. All exhibits filed with or incorporated by reference in the Registration Statement on Form S-3 (File No. 333-267674) are incorporated by reference into, and shall be deemed a part of, this Registration Statement, and the following additional exhibits are filed herewith, as part of this Registration Statement:

| Exhibit Number | Description |
|-------------------|---|
| Number 5.1 | Opinion of Cooley LLP (incorporated by reference to Exhibit 5.1 to the Prior Registration Statement). |
| 23.1 | Consent of Independent Registered Public Accounting Firm. |
| 23.2 | Consent of Cooley LLP (included in Exhibit 5.1). |
| 24.1 | Powers of Attorney (incorporated by reference to Exhibit 24.1 to the Prior Registration Statement). |
| 107 | Filing Fee Table. |

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 La Jolla, State of California, on January 3, 2024.

LONGBOARD PHARMACEUTICALS, INC.

By: /s/ Kevin R. Lind

Kevin R. Lind President and Chief Executive Officer

| Name | Title | Date | |
|------------------------------|---|-----------------|--|
| /s/ Kevin R. Lind | President, Chief Executive Officer and Director | January 3, 2024 | |
| Kevin R. Lind | (Principal Executive Officer) | | |
| /s/ Brandi L. Roberts | Chief Financial Officer | January 3, 2024 | |
| Brandi L. Roberts | (Principal Financial and Accounting Officer) | | |
| /s/ Vincent E. Aurentz* | Director | January 3, 2024 | |
| Vincent E. Aurentz | | • | |
| /s/ Corinne Le Goff* | Director | January 3, 2024 | |
| Corinne Le Goff, Pharm.D. | | • | |
| /s/ Casey C. Lynch* | Director | January 3, 2024 | |
| Casey C. Lynch | | | |
| /s/ Phillip M. Schneider* | Director | January 3, 2024 | |
| Phillip M. Schneider | | • | |
| /s/ Paul J. Sekhri* | Director | January 3, 2024 | |
| Paul J. Sekhri | <u>—</u> | • | |
| /s/ Jane Tiller* | Director | January 3, 2024 | |
| Jane Tiller, MBChB, FRCPsych | | , | |

By: /s/ Kevin R. Lind

Kevin R. Lind Attorney-in-fact

Consent of Independent Registered Public Accounting Firm

We consent to the use of our report dated March 2, 2023, with respect to the financial statements of Longboard Pharmaceuticals, Inc., incorporated herein by reference, and to the reference to our firm under the heading "Experts" in the prospectus.

/s/ KPMG LLP

San Diego, California January 3, 2024

Calculation of Filing Fee Tables

Form S-3 (Form Type)

Longboard Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in its Charter)

Newly Registered Securities

| Security Type | Security Class Title | Fee Calculation Rule | Amount Registered | Proposed Maximum Offering Price Per Share | Maximum Aggregate Offering Price | Fee Rate | Amount of Registration Fee |
|----------------------------|----------------------------|----------------------------|----------------------|--|---|-------------|----------------------------------|
| Equity | Common | | | | | | |
| | Stock, par | | | | | | |
| | value | | | | | | |
| | \$0.0001 | Rule | | | | | |
| | per share | 457(o) | (1) | (1) | (1) | | |
| Unallocated (Universal) | Unallocated | | | | | | |
| Shelf | (Universal) | Rule | | | | | |
| | Shelf | 457(o) | (1) | (1) | \$23,287,313 | 0.00014760 | \$3,437.21 |
| Total Offering Amounts | | | | | \$23,287,313 | | \$3,437.21 |
| Total Fees Paid Previously | | | | · | | | _ |
| Total Fee Offsets | | | | | | | _ |
| Net Fee Due | | | | | | | \$3,437.21 |

⁽¹⁾ The Registrant previously registered the offer and sale of certain securities, including its common stock, par value \$0.0001 per share, having a proposed maximum aggregate offering price of \$150,000,000 pursuant to Registration Statement on Form S-3 (File No. 333-267674), which was filed on September 30, 2022 and declared effective by the SEC on October 11, 2022 (the "*Prior Registration Statement*"). As of the date hereof, a balance of \$118,212,687 of such securities remains unsold under the Prior Registration Statement. In accordance with Rule 462(b) under the Securities Act of 1933, as amended, and General Instruction IV(A) of Form S-3, the Registrant is hereby registering the offer and sale of an additional \$23,287,313 of its shares of common stock. The additional amount of securities that is being registered for offer and sale represents no more than 20% of the maximum aggregate offering price of the remaining securities available to be sold under the Prior Registration Statement.