UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

SUTRO BIOPHARMA, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 47-0926186 (I.R.S. Employer Identification No.)

111 Oyster Point Blvd. South San Francisco, California, 94080 (650) 881-6500 (Address of Principal Executive Offices) (Zip Code)

2018 Equity Incentive Plan 2018 Employee Stock Purchase Plan (Full Title of the Plans)

William J. Newell
Chief Executive Officer
Sutro Biopharma, Inc.
111 Oyster Point Blvd.
South San Francisco, CA 94080
(Name and Address of Agent for Service)

(650) 881-6500 (Telephone Number, including area code, of agent for service)

Please send copies of all communications to:

Robert A. Freedman, Esq. Amanda L. Rose, Esq. Ryan Mitteness, Esq. Fenwick & West LLP 555 California Street, 12th Floor San Francisco, California 94104 (415) 875-2300

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 definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

company. See definitions of	large accelerated filer,	decererated inter,	smaller reporting company, and emerging grown company in real 120 2 of the Exemange rec.	
Large accelerated filer			Accelerated filer	
Non-accelerated filer	\boxtimes		Smaller reporting company	×
			Emerging growth company	
If an emerging growth comp accounting standards provide			t has elected not to use the extended transition period for complying with any new or revised financial urities Act. \Box	
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REGISTRATION OF ADDITIONAL SHARES PURSUANT TO GENERAL INSTRUCTION E

Sutro Biopharma, Inc. (the "*Registrant*") is filing this Registration Statement with the Securities and Exchange Commission (the "*Commission*") to register (a) 3,050,491 additional shares of common stock available for issuance under the Registrant's Equity Incentive Plan (the "2018 EIP"), pursuant to the provision of the 2018 EIP providing for an annual 5% automatic increase in the number of shares reserved for issuance; and (b) 114,754 additional shares of common stock available for issuance under the Registrant's 2018 Employee Stock Purchase Plan ("2018 ESPP") to increase the total shares reserved for issuance under the 2018 ESPP from 2,185,246 shares to 2,300,000 shares, pursuant to the provision of the 2018 ESPP providing for an annual 1% automatic increase in the number of shares reserved for issuance; provided that no more than 2,300,000 Shares may be issued over the term of the 2018 ESPP.

In accordance with General Instruction E of Form S-8, and only with respect to the common stock issuable under the 2018 EIP and 2018 ESPP, this Registration Statement hereby incorporates by reference the contents of the Registration Statements on Form S-8 filed with the Commission on September 27, 2018 (Registration No. 333-227551), April 1, 2019 (Registration No. 333-230641), March 16, 2020 (Registration No. 333-237202), March 18, 2021 (Registration No. 333-254456), March 1, 2022 (Registration No. 333-263113) and February 27, 2023 (Registration No. 333-270055) to the extent not superseded hereby.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant with the Commission pursuant to the Securities Act and the Securities Exchange Act of 1934, as amended (the "Exchange Act") are incorporated herein by reference:

the Registrant's Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Commission on March 30, 2023 pursuant to Section 13 of the Exchange Act;

all other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Registrant's Annual Report on Form 10-K referred to in (a) above; and

the description of the Registrant's common stock contained in the Registrant's registration statement on Form 8-A (File No. 001-38662) filed on September 18, 2018 under Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents and definitive proxy or information statements filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the filing of this Registration Statement and prior to the filing of a post-effective amendment, which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing such documents, except as to documents or information deemed to have been furnished and not filed in accordance with the rules of the Commission. Unless expressly incorporated into this Registration Statement, a report deemed to be furnished but not filed on Form 8-K prior or subsequent to the date hereof shall not be incorporated by reference into this Registration Statement. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement.

Item 8. Exhibits.

Exhibit		Incorporated by Reference				Filed
Number	Exhibit Description	Form	File No.	Exhibit	Filing Date	Herewith
4.1	Amended and Restated Certificate of Incorporation of the Registrant.	10-Q	001-38662	3.1	11/13/2023	
4.2	Amended and Restated Bylaws of the Registrant.	8-K	001-38662	3.1	02/24/2023	
4.3	Form of Registrant's Common Stock Certificate.	S-1/A	333-227103	4.1	09/17/2018	
5.1	Opinion and Consent of Fenwick & West LLP.					X
23.1	Consent of independent registered public accounting firm.					X
23.2	Consent of Fenwick & West LLP (contained in Exhibit 5.1).					X
24.1	Power of Attorney (included on signature page of this Registration Statement).					X
99.1	2018 Equity Incentive Plan.	S-1/A	333-227103	10.4	09/17/2018	
99.2	2018 Employee Stock Purchase Plan .	S-1/A	333-227103	10.5	09/17/2018	
99.3	Amended Form of Restricted Stock Unit Agreement under the 2018 Equity Incentive Plan.	10-Q	001-38662	10.1	11/8/2019	
99.4	Amended Form of Performance Stock Unit Agreement under the 2018 Equity Incentive Plan.	10-Q	001-38662	10.2	11/8/2019	
107.1	Calculation of Registration Fees.					X

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-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in South San Francisco, California, on this 27th day of February, 2024.

SUTRO BIOPHARMA, INC.

By: /s/ William J. Newell

William J. Newell Chief Executive Officer and Director

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints William J. Newell and Edward Albini, and each of them, as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8, and to file the same, with all exhibits thereto and 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 connection therewith, as fully for all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

Signature	Title	Date
/s/ William J. Newell William J. Newell	Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2024
/s/ Edward Albini Edward Albini	Chief Financial Officer (Principal Accounting Officer and Principal Financial Officer)	February 27, 2024
/s/ Connie Matsui Connie Matsui	Director, Chair	February 27, 2024
/s/ Michael Dybbs, Ph.D. Michael Dybbs, Ph.D.	Director	February 27, 2024
/s/ John G. Freund, M.D. John G. Freund, M.D.	Director	February 27, 2024
/s/ Heidi Hunter Heidi Hunter	Director	February 27, 2024
/s/ Joseph M. Lobacki Joseph M. Lobacki	Director	February 27, 2024
/s/ James Panek James Panek	Director	February 27, 2024
/s/ Daniel H. Petree Daniel H. Petree	Director	February 27, 2024
/s/ Jon Wigginton, M.D. Jon Wigginton, M.D.	Director	February 27, 2024
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555 California Street 12th Floor San Francisco, CA 94104 415.875.2300 Fenwick.com

February 27, 2024

Sutro Biopharma, Inc. 111 Oyster Point Blvd. South San Francisco, California 94080

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

As counsel to Sutro Biopharma, Inc., a Delaware corporation (the "Company"), we have examined the Registration Statement on Form S-8 (the "Registration Statement") to be filed by the Company with the Securities and Exchange Commission (the "Commission") on or about February 27, 2024 in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of an aggregate of 3,165,245 shares (the "Shares") of the Company's Common Stock, \$0.001 par value per share (the "Common Stock"), that consists of (a) 3,050,491 Shares that are subject to issuance by the Company upon the exercise or settlement of awards granted or to be granted under the 2018 Equity Incentive Plan (the "2018 EIP"), and (b) 114,754 Shares that are subject to issuance by the Company pursuant to purchase rights granted or to be granted under the 2018 Employee Stock Purchase Plan (the "2018 ESPP").

As to matters of fact relevant to the opinions rendered herein, we have examined such documents, certificates and other instruments which we have deemed necessary or advisable, including a certificate addressed to us and dated the date hereof executed by the Company (the "Opinion Certificate"). We have not undertaken any independent investigation to verify the accuracy of any such information, representations or warranties or to determine the existence or absence of any fact, and no inference as to our knowledge of the existence or absence of any fact should be drawn from our representation of the Company or the rendering of the opinion set forth below. We have not considered parol evidence in connection with any of the agreements or instruments reviewed by us in connection with this letter.

In our examination of documents for purposes of this letter, we have assumed, and express no opinion as to, the genuineness and authenticity of all signatures on original documents, the authenticity and completeness of all documents submitted to us as originals, that each document is what it purports to be, the conformity to originals of all documents submitted to us as copies or facsimile copies, the absence of any termination, modification or waiver of or amendment to any document reviewed by us (other than as has been disclosed to us), the legal competence or capacity of all persons or entities (other than the Company) executing the same and (other than the

Company) the due authorization, execution and delivery of all documents by each party thereto. We have also assumed the conformity of the documents filed with the Commission via the Electronic Data Gathering, Analysis and Retrieval System ("*EDGAR*"), except for required EDGAR formatting changes, to physical copies submitted for our examination.

The opinions in this letter are limited to the existing General Corporation Law of the State of Delaware now in effect. We express no opinion with respect to any other laws.

Based upon, and subject to, the foregoing, it is our opinion that the Shares, when issued and sold by the Company in accordance with the terms (including, without limitation, payment and authorization provisions) of the applicable Plan and the applicable form of award agreement thereunder, against the Company's receipt of payment therefor (in an amount and type of consideration not less than the par value per Share), and duly registered on the books of the transfer agent and registrar for the Shares in the name or on behalf of the holders thereof, will be validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to all references to us, if any, in the Registration Statement, the prospectuses constituting a part thereof and any amendments thereto. We do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

This opinion is intended solely for your use in connection with the issuance and sale of the Shares subject to the Registration Statement and is not to be relied upon for any other purpose. In providing this letter, we are opining only as to the specific legal issues expressly set forth above, and no opinion shall be inferred as to any other matter or matters. This opinion is rendered on, and speaks only as of, the date of this letter first written above, and does not address any potential change in facts or law that may occur after the date of this opinion letter. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention, whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

/s/ Fenwick & West LLP

FENWICK & WEST LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-8 pertaining to the 2018 Equity Incentive Plan and 2018 Employee Stock Purchase Plan of Sutro Biopharma, Inc. of our report dated March 30, 2023 with respect to the financial statements of Sutro Biopharma, 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 Mateo, California February 27, 2024

Calculation of Filing Fee Tables

Form S-8 (Form Type)

Sutro Biopharma, Inc.

(Exact Name of Registrant as Specified in its Charter)

Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered(1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common stock, par value \$0.001 per share	Rule 457(c) and Rule 457(h)	3,050,491 (2)	\$4.70(3)	\$14,337,307.70	\$0.00014760	\$2,116.19
Equity	Common stock, par value \$0.001 per share	Rule 457(c) and Rule 457(h)	114,754 (4)	\$4.00 (5)	\$459,015.36	\$0.00014760	\$67.76
		ering Amounts Fee Offsets			\$14,796,323.06	N/A	\$2,183.95
		t Fee Due					\$2,183.95

(1)Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the Registrant's 2018 Equity Incentive Plan (the "2018 EIP") and 2018 Employee Stock Purchase Plan (the "2018 ESPP") by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration that increases the number of the outstanding shares of the Registrant's common stock.

(2)Represents additional shares to be registered and available for grant under the 2018 EIP resulting from the annual 5% automatic increase in the number of authorized shares available for issuance under the 2018 EIP.

(3)Estimated in accordance with Rules 457(c) and 457(h) of the Securities Act solely for the purpose of calculating the registration fee. The proposed maximum offering price per share of \$4.70 was computed by averaging the high and low prices of a share of Registrant's common stock as reported on The Nasdaq Global Market on February 21, 2024.

(4)Represents additional shares to be registered and available for grant under the 2018 ESPP resulting from the annual 1% automatic increase in the number of shares reserved for issuance; provided that no more than 2,300,000 Shares may be issued over the term of the 2018 ESPP.

(5)Estimated in accordance with Rules 457(c) and 457(h) of the Securities Act solely for the purpose of calculating the registration fee. The proposed maximum offering price per share of \$4.00 was computed by averaging the high and low prices of a share of Registrant's common stock as reported on The Nasdaq Global Market on February 21, 2024, multiplied by 85%, which is the percentage of the trading price per share applicable to purchasers under the 2018 ESPP.