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

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**FORM S-8**  
**REGISTRATION STATEMENT**  
*UNDER*  
*THE SECURITIES ACT OF 1933*

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**Calithera Biosciences, Inc.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
Incorporation or organization)

**27-2366329**  
(I.R.S. Employer  
Identification No.)

**343 Oyster Point Blvd., Suite 200**  
**South San Francisco, California 94080**  
(Address of principal executive offices) (Zip code)

**Calithera Biosciences, Inc. 2014 Equity Incentive Plan**  
**Calithera Biosciences, Inc. 2014 Employee Stock Purchase Plan**  
(Full title of the plans)

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**Susan M. Molineaux, Ph.D.**  
**President and Chief Executive Officer**  
**343 Oyster Point Blvd., Suite 200**  
**South San Francisco, California 94080**  
**(650) 870-1000**  
(Name and address of agent for service) (Telephone number, including area code, of agent for service)

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*Copies to:*

**John T. McKenna**  
**David R. Ambler**  
**Cooley LLP**  
**3175 Hanover Street**  
**Palo Alto, California 94304**  
**(650) 843-5000**

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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   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

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

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## PART I

### EXPLANATORY NOTE

Calithera Biosciences, Inc. (the “**Registrant**”) is filing this Registration Statement on Form S-8 for the purpose of registering an additional (a) 3,085,761 shares of its common stock, par value \$0.0001 per share (the “**Common Stock**”), issuable to eligible persons under the 2014 Equity Incentive Plan, which Common Stock is in addition to the shares of Common Stock registered on the Registrant’s registration statements on Form S-8 filed on (i) [October 2, 2014 \(File No. 333-199126\)](#), (ii) [May 11, 2015 \(File No. 333-204056\)](#), (iii) [March 15, 2016 \(File No. 333-210193\)](#), (iv) [March 16, 2017 \(File No. 333-216740\)](#), (v) [March 8, 2018 \(File No. 333-223533\)](#), (vi) [March 7, 2019 \(File No. 333-230131\)](#), (vii) [March 11, 2020 \(File No. 333-237089\)](#) and (viii) [March 16, 2021 \(File No. 333-254351\)](#) (the “**Prior Forms S-8**”), and (b) 250,000 shares of Common Stock issuable to eligible persons under the 2014 Employee Stock Purchase Plan, which Common Stock is in addition to the shares of Common Stock registered on the Prior Forms S-8.

## PART II

### ITEM 3. INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

Pursuant to General Instruction E to Form S-8, the contents of the Prior Forms S-8 are incorporated by reference herein.

The Registrant hereby incorporates by reference into this Registration Statement the following documents filed by it with the SEC:

- (a) the Registrant’s Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on March 31, 2022;
- (b) our Current Reports on Form 8-K filed with the SEC on [January 5, 2022](#), [January 28, 2022](#) and [March 31, 2022](#) (with respect to Items 8.01 and 9.01 therein); and
- (c) The description of the Common Stock contained in the Registrant’s Registration Statement on [Form 8-A](#) (File No. 001-36644) filed with the SEC on September 25, 2014 as updated by [Exhibit 4.3](#) to our Annual Report on Form 10-K for the year ended December 31, 2019 and any amendments or reports filed for the purpose of updating such description.

All other reports and documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part of this Registration Statement from the date of the filing of such reports and documents. 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 herein or in any subsequently filed document that also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

**ITEM 8. EXHIBITS**

Exhibit Number	Description	Incorporated by Reference			Filing Date
		Schedule Form	File Number	Exhibit	
4.1	<a href="#">Amended and Restated Certificate of Incorporation of Calithera Biosciences, Inc.</a>	8-K	001-36644	3.1	October 7, 2014
4.2	<a href="#">Amended and Restated Bylaws of Calithera Biosciences, Inc.</a>	10-Q	001-36644	3.2	August 10, 2020
4.3	<a href="#">Form of Common Stock Certificate</a>	S-1	333-198355	4.1	September 25, 2014
5.1*	<a href="#">Opinion of Cooley LLP.</a>				
23.1*	<a href="#">Consent of Independent Registered Public Accounting Firm.</a>				
23.2*	<a href="#">Consent of Cooley LLP (included in Exhibit 5.1).</a>				
24.1*	<a href="#">Power of Attorney (see signature page hereto).</a>				
99.1	<a href="#">Calithera Biosciences, Inc. 2014 Equity Incentive Plan., as amended</a>	8-K	001-36644	99.1	January 26, 2021
99.4	<a href="#">2014 Employee Stock Purchase Plan.</a>	S-1	333-198355	10.6	September 25, 2014
107*	<a href="#">Filing Fee Table</a>				

\* Filed herewith

## 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 the city of South San Francisco, State of California, on March 31, 2022.

**CALITHERA BIOSCIENCES, INC.**

By: /s/ Susan M. Molineaux

Susan M. Molineaux, Ph.D.

President and Chief Executive Officer

## POWER OF ATTORNEY

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Susan M. Molineaux, Ph.D. and Stephanie Wong, and each or any one of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his 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 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 their or his or her substitutes or substitute, 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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Susan M. Molineaux</u> Susan M. Molineaux, Ph.D.	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	March 31, 2022
<u>/s/ Stephanie Wong</u> Stephanie Wong	Chief Financial Officer and Secretary <i>(Principal Financial and Accounting Officer)</i>	March 31, 2022
<u>/s/ Sunil Agarwal</u> Sunil Agarwal, M.D.	Director	March 31, 2022
<u>/s/ Jonathan G. Drachman</u> Jonathan G. Drachman, M.D.	Director	March 31, 2022
<u>/s/ Scott Garland</u> Scott Garland	Director	March 31, 2022
<u>/s/ Suzy Jones</u> Suzy Jones	Director	March 31, 2022
<u>/s/ Keith Orford</u> Keith Orford, M.D., Ph.D.	Director	March 31, 2022
<u>/s/ Deepa R. Pakianathan</u> Deepa R. Pakianathan, Ph.D.	Director	March 31, 2022
<u>/s/ Blake Wise</u> Blake Wise	Director	March 31, 2022
<u>/s/ H. Ward Wolff</u> H. Ward Wolff	Director	March 31, 2022



David Ambler  
+1 650 843 5899  
dambler@cooley.com

March 31, 2022

Calithera Biosciences, Inc.  
343 Oyster Point Blvd. Suite 200  
South San Francisco, California 94080

Ladies and Gentlemen:

We have acted as counsel to Calithera Biosciences, Inc., a Delaware corporation (the "**Company**"), in connection with the filing of a registration statement on Form S-8 (the "**Registration Statement**") with the Securities and Exchange Commission covering the offering of up to 3,335,761 shares (the "**Shares**") of the Company's Common Stock, par value \$0.0001 per share ("**Common Stock**"), consisting of (a) 3,085,761 shares of Common Stock issuable pursuant to the Company's 2014 Equity Incentive Plan (the "**2014 Plan**") and (b) 250,000 shares of Common Stock issuable pursuant to the Company's 2014 Employee Stock Purchase Plan (together with the 2014 Plan, the "**Plans**").

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and related prospectuses, (b) the Plans, (c) the Company's Amended and Restated Certificate of Incorporation, including its Certificate of Designations of Preferences, Rights and Limitations of Series A Preferred Stock, and Amended and Restated Bylaws, each as currently in effect and (d) originals or copies certified to our satisfaction of such other 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, and 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 securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plans, the Registration Statement and related prospectuses, will be validly issued, fully paid, and nonassessable (except as to shares issued pursuant to deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

Cooley LLP 3175 Hanover Street Palo Alto, CA 94304-1130  
t: (650) 843-5000 f: (650) 849-7400 cooley.com



Calithera Biosciences, Inc.  
March 31, 2022  
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We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ David Ambler  
David Ambler

Cooley LLP 3175 Hanover Street Palo Alto, CA 94304-1130  
t: (650) 843-5000 f: (650) 849-7400 cooley.com

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Calithera Biosciences, Inc. 2014 Equity Incentive Plan and the Calithera Biosciences, Inc. 2014 Employee Stock Purchase Plan of our report dated March 31, 2022, with respect to the consolidated financial statements of Calithera Biosciences, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2021, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Redwood City, CA  
March 31, 2022

## CALCULATION OF FILING FEE TABLES

## Form S-8

## Calithera Biosciences, Inc.

**Table 1: Newly Registered Securities**

<u>Security Type</u>	<u>Security Class Title</u>	<u>Fee Calculation Rule</u>	<u>Amount to be Registered<sup>(1)</sup></u>	<u>Proposed Maximum Offering Price Per Share</u>	<u>Proposed Maximum Aggregate Offering Price</u>	<u>Fee Rate</u>	<u>Amount of Registration Fee</u>
Equity	2014 Equity Incentive Plan (Common stock, \$0.0001 par value per share)	Other	3,085,761 <sup>(2)</sup>	\$ 0.54 <sup>(4)</sup>	\$1,666,310.94	.0000927	\$ 154.47
Equity	2014 Employee Stock Purchase Plan (Common stock, \$0.0001 par value per share)	Other	250,000 <sup>(3)</sup>	\$ 0.54 <sup>(5)</sup>	\$ 135,000.00	.0000927	\$ 12.52
	Total Offering Amounts				<u>\$1,801,310.92</u>		<u>\$ 166.99</u>
	Total Fee Offsets						<u>N/A</u>
	Net Fee Due						<u>\$ 166.99</u>

- (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 common stock that become issuable under the above-named plans by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without receipt of consideration which results in an increase in the number of Calithera Biosciences, Inc.’s (the “**Registrant**”) outstanding shares of common stock, par value \$0.0001 per share (the “**Common Stock**”).
- (2) Represents additional shares of the Registrant’s Common Stock reserved for future grant under the Calithera Biosciences, Inc. 2014 Equity Incentive Plan (the “**2014 Plan**”) as a result of the automatic increase in shares reserved thereunder on January 1, 2022 pursuant to the terms of the 2014 Plan. The 2014 Plan provides that an additional number of shares will automatically be added annually to the shares authorized for issuance under the 2014 Plan on January 1, 2022 and ending on (and including) January 1, 2024 in an amount equal to 4% of the total number of shares of the Registrant’s capital stock outstanding on December 31st of the preceding calendar year, except that, before the date of any such increase, the Registrant’s board of directors may determine that the increase for such year will be a lesser number of shares.

- (3) Represents additional shares of the Registrant's Common Stock reserved for issuance under the Calithera Biosciences, Inc. 2014 Employee Stock Purchase Plan (the "ESPP") as a result of the automatic increase in shares reserved thereunder on January 1, 2022 pursuant to the terms of the ESPP. The ESPP provides that an additional number of shares will automatically be added annually to the shares authorized for issuance under the ESPP on January 1, 2022 and ending on (and including) January 1, 2024. The number of shares added each year will be equal to the lesser of: (a) 1% of the total number of shares of the Registrant's capital stock outstanding on December 31 of the preceding calendar year and (b) 250,000 shares of Common Stock, except that, before the date of any such increase, the Registrant's board of directors may determine that there will be no such increase or that the increase for such year will be less than the amount set forth in clauses (a) and (b).
- (4) Estimated pursuant to Rule 457(c) and Rule 457(h) solely for the purpose of calculating the registration fee on the basis of \$0.54 per share, which is the average of the high and low prices of the Common Stock as reported on The Nasdaq Global Select Market on March 25, 2022, rounded up to the nearest cent.
- (5) Estimated pursuant to Rule 457(c) and Rule 457(h) solely for the purpose of calculating the registration fee on the basis of \$0.54 per share, which is 85% of the average of the high and low prices of the Common Stock as reported on The Nasdaq Global Select Market on March 25, 2022, rounded up to the nearest cent.