

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

**FORM S-8
REGISTRATION STATEMENT**

*Under
The Securities Act of 1933*

Pacific Biosciences of California, Inc.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

16-1590339
(I.R.S. Employer
Identification Number)

**1380 Willow Road
Menlo Park, CA 94025**
(Address of principal executive offices, including zip code)

**Pacific Biosciences of California, Inc. 2010 Equity Incentive Plan
Pacific Biosciences of California, Inc. 2010 Employee Stock Purchase Plan
Pacific Biosciences of California, Inc. 2010 Outside Director Equity Incentive Plan**
(Full title of the plan)

**Michael Hunkapiller
Chief Executive Officer
1380 Willow Road
Menlo Park, CA 94025
(650) 521-8000**
(Name, address and telephone number, including area code, of agent for service)

Copies to:
**Larry W. Sonsini
Donna M. Petkanics
Wilson Sonsini Goodrich & Rosati, P.C.
650 Page Mill Road
Palo Alto, CA 94304
(650) 493-9300**

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (do not check if a smaller reporting company)

Smaller reporting company

CALCULATION OF REGISTRATION FEE

| Title of Securities to be Registered | Amount to be Registered (1) | Proposed Maximum Offering Price Per Share | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee |
|--|------------------------------------|--|--|-----------------------------------|
| Common stock, \$0.001 par value per share: | | | | |
| — To be issued under the 2010 Equity Incentive Plan | 2,808,482(2) | \$2.56(3) | \$7,189,713.92 | \$980.68 |
| — To be issued under the 2010 Employee Stock Purchase Plan | 1,123,393(4) | \$2.18(5) | \$2,448,996.74 | \$334.05 |
| — To be issued under the 2010 Outside Director Equity Incentive Plan | 561,696(6) | \$2.56(7) | \$1,437,941.76 | \$196.14 |
| TOTAL: | 4,493,571 | | \$11,076,652.42 | \$1,510.87 |

- (1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the 2010 Equity Incentive Plan ("2010 Plan"), 2010 Employee Stock Purchase Plan ("2010 ESPP"), and 2010 Outside Director Equity Incentive Plan ("2010 Director Plan") by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant's outstanding shares of common stock.
- (2) Reflects an automatic annual increase on January 1, 2013 to the number of shares of the Registrant's common stock reserved for issuance under the 2010 Plan, which annual increase is provided for in the 2010 Plan.
- (3) Estimated in accordance with Rule 457(h) solely for purposes of calculating the registration fee on the basis of \$2.56, the average of the high and low prices of Registrant's common stock as reported on the NASDAQ Global Select Market on January 10, 2013.
- (4) Reflects an automatic annual increase on January 1, 2013 to the number of shares of the Registrant's common stock reserved for issuance under the 2010 ESPP, which annual increase is provided for in the 2010 ESPP.
- (5) Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of 85% of \$2.56, the average of the high and low prices of Registrant's common stock as reported on the NASDAQ Global Select Market on January 10, 2013. Pursuant to the 2010 ESPP, which plan is incorporated by reference herein, the purchase price of the shares of common stock will be 85% of the lower of the fair market value of the common stock on the first trading day of the offering period or on the last day of the offering period.
- (6) Reflects an automatic annual increase on January 1, 2013 to the number of shares of the Registrant's common stock reserved for issuance under the 2010 Director Plan, which annual increase is provided for in the 2010 Director Plan.
- (7) Estimated in accordance with Rule 457(h) solely for purposes of calculating the registration fee on the basis of \$2.56, the average of the high and low prices of Registrant's common stock as reported on the NASDAQ Global Select Market on January 10, 2013.

PART I

INFORMATION REQUIRED IN THE PROSPECTUS

The documents containing the information specified in Item 1 and Item 2 of this Registration Statement on Form S-8 (the "Registration Statement") will be sent or given to employees, officers, directors or others as specified by Rule 428(b)(1) under the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the rules and regulations of the Securities and Exchange Commission (the "Commission") and the instructions to the Registration Statement, such documents are not being filed with the Commission either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424.

PART II

INFORMATION REQUIRED IN REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

Pacific Biosciences of California, Inc. (the "Registrant") hereby incorporates by reference into this Registration Statement the following documents previously filed with the Securities and Exchange Commission:

(1) The Registrant's Annual Report on Form 10-K for its fiscal year ended December 31, 2011, filed with the Commission on February 29, 2012 pursuant to Section 13(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act");

(2) All other reports filed with the Commission pursuant to Sections 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Registrant's Annual Report referred to in (1) above; and

(3) The description of the Registrant's Common Stock contained in the Company's Registration Statement on Form 8-A (File No. 001-34899) filed with the Commission on October 6, 2010, pursuant to Section 12(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered have been sold or that deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be part hereof from the date of filing of such documents.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the Delaware General Corporation Law, the registrant's certificate of incorporation to be in effect upon the closing of this offering includes provisions that eliminate the personal liability of its directors for monetary damages for breach of their fiduciary duty as directors. To the extent Section 102(b)(7) is interpreted, or the Delaware General Corporation Law is amended, to allow similar protections for officers of a corporation, such provisions of the registrant's certificate of incorporation shall also extend to those persons.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, the bylaws of the Registrant to be effective upon completion of this offering provide that:

- The Registrant shall indemnify its directors and officers for serving the registrant in those capacities or for serving other business enterprises at the registrant's request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- The Registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- The Registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.
- The Registrant will not be obligated pursuant to the bylaws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by the Registrant's board of directors or brought to enforce a right to indemnification.
- The rights conferred in the bylaws are not exclusive, and the Registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.
- The Registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The Registrant's policy is to enter into separate indemnification agreements with each of its directors and officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the Delaware General Corporation Law and also provides for certain additional procedural protections.

These indemnification provisions and the indemnification agreements entered into between the Registrant and its officers and directors may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

| <u>Exhibit Number</u> | <u>Description</u> |
|-----------------------|---|
| 4.1* | Specimen Common Stock Certificate of Registrant (which is incorporated herein by reference to the Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 (Registration No. 333-168858), as amended ("Registrant's Form S-1")) |

| <u>Exhibit Number</u> | <u>Description</u> |
|-----------------------|--|
| 4.2* | 2010 Equity Incentive Plan and forms of option agreements thereunder (which are incorporated herein by reference to Exhibit 10.4 to the Registrant's Form S-1) |
| 4.3* | 2010 Employee Stock Purchase Plan and forms of agreement thereunder (which is incorporated herein by reference to Exhibit 10.5 to the Registrant's Form S-1) |
| 4.4* | 2010 Outside Director Equity Incentive Plan and forms of agreement thereunder (which is incorporated herein by reference to Exhibit 10.6 to the Registrant's Form S-1) |
| 5.1 | Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation |
| 23.1 | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm |
| 23.2 | Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm |
| 23.3 | Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1 hereto) |
| 24.1 | Power of Attorney (contained on signature page hereto) |

* Incorporated by reference to exhibits filed with the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-168858), as declared effective on October 26, 2010.

Item 9. Undertakings.

A. The undersigned Registrant hereby undertakes:

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

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that paragraphs (A)(1)(i) and (A)(1)(ii) 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 Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement.

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

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

B. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report

pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

C. Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 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 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 Menlo Park, State of California, on January 16, 2013.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

By: /s/ Susan K. Barnes

Susan K. Barnes

Executive Vice President and Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Michael Hunkapiller and Susan K. Barnes, jointly and severally, as his true and lawful attorneys-in-fact and agents with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign the Registration Statement on Form S-8 of Pacific Biosciences of California, Inc. and any or all amendments (including 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 full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises hereby ratifying and confirming all that said attorneys-in-fact and agents, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated below:

| <u>Signature</u> | <u>Title</u> | <u>Date</u> |
|---|---|------------------|
| <u>/s/ Michael Hunkapiller</u> Michael Hunkapiller | Chairman, Chief Executive Officer and President | January 16, 2013 |
| <u>/s/ Susan K. Barnes</u> Susan K. Barnes | Executive Vice President and Chief Financial Officer | January 16, 2013 |
| <u>/s/ Brian B. Dow</u> Brian B. Dow | Vice President and Principal Accounting Officer | January 16, 2013 |
| <u>/s/ Brook Byers</u> Brook Byers | Director | January 16, 2013 |
| <u>/s/ William W. Ericson</u> William W. Ericson | Director | January 16, 2013 |
| <u>/s/ Marshall Mohr</u> Marshall Mohr | Director | January 16, 2013 |
| <u>/s/ Randall S. Livingston</u> Randall S. Livingston | Director | January 16, 2013 |
| <u>/s/ Susan Siegel</u> Susan Siegel | Director | January 16, 2013 |
| <u>/s/ David B. Singer</u> David B. Singer | Director | January 16, 2013 |

/s/ David Botstein Director

January 16, 2013

David Botstein

/s/ Lucy Shapiro Director

January 16, 2013

Lucy Shapiro

INDEX TO EXHIBITS

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| 23.3 | Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1 hereto) |
| 24.1 | Power of Attorney (contained on signature page hereto) |

* Incorporated by reference to exhibits filed with the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-168858), as declared effective on October 26, 2010.

OPINION OF WILSON SONSINI GOODRICH & ROSATI,
PROFESSIONAL CORPORATION

January 16, 2013

Pacific Biosciences of California, Inc.
1380 Willow Road
Menlo Park, CA 94025

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 (the "Registration Statement") to be filed by Pacific Biosciences of California, Inc., a Delaware corporation, with the Securities and Exchange Commission on or about the date hereof, in connection with the registration under the Securities Act of 1933, as amended, of an aggregate of 4,493,571 shares of your common stock, par value \$0.001 per share (the "Shares"), reserved for issuance pursuant to the 2010 Equity Incentive Plan, 2010 Employee Stock Purchase Plan, and 2010 Outside Director Equity Incentive Plan (the "Plans"). As your legal counsel, we have reviewed the actions proposed to be taken by you in connection with the issuance and sale of the Shares to be issued under the Plans.

It is our opinion that the Shares, when issued and sold in the manner referred to in the Plans and pursuant to the agreements that accompany the Plans, will be legally and validly issued, fully paid and nonassessable.

We consent to the use of this opinion as an exhibit to the Registration Statement, and further consent to the use of our name wherever appearing in the Registration Statement and any amendments thereto.

Very truly yours,

/s/ Wilson Sonsini Goodrich & Rosati, P.C.

WILSON SONSINI GOODRICH & ROSATI, P.C.
Professional Corporation

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Pacific Biosciences of California, Inc. 2010 Equity Incentive Plan, 2010 Employee Stock Purchase Plan, and 2010 Outside Director Equity Incentive Plan of our reports dated February 29, 2012, with respect to the consolidated financial statements of Pacific Biosciences of California, Inc., and the effectiveness of internal control over financial reporting of Pacific Biosciences of California, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2011, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Redwood City, California
January 16, 2013

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated March 23, 2011 relating to the consolidated financial statements, which appears in Pacific Biosciences of California, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011.

/s/ PricewaterhouseCoopers LLP

San Jose, California

January 16, 2013