

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
Pacific Biosciences of California, Inc. 2005 Stock Plan
Pacific Biosciences of California, Inc. 2004 Equity Incentive Plan
(Full title of the plan)

Hugh C. Martin
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	3,708,279(2)	\$16.46(4)	\$61,038,272.34	\$4,352.03
— To be issued under the 2010 Employee Stock Purchase Plan	750,000	\$13.99(5)	\$10,492,500.00	\$748.12
— To be issued under the 2010 Outside Director Equity Incentive Plan	500,000	\$16.46(6)	\$8,230,000.00	\$586.80
— Outstanding under the 2005 Stock Plan	9,201,225(3)	\$6.29(7)	\$57,875,705.25	\$4,126.54
— Outstanding under the 2004 Equity Incentive Plan	113,959	\$0.22(8)	\$25,070.98	\$1.79
TOTAL:	14,273,463		\$137,661,548.57	\$9,815.28

(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"), 2010 Outside Director Equity Incentive Plan ("2010 Director Plan"), 2005 Stock Plan ("2005 Plan") and 2004 Equity Incentive Plan ("2004 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) Shares of common stock reserved for issuance under the 2010 Plan consist of (a) 2,500,000 shares of common stock initially available for future grants under the 2010 Plan plus (b) 1,208,279 shares of common stock previously reserved but unissued under the 2005 Plan that are now available for issuance

under the 2010 Plan. To the extent outstanding awards under the 2005 Plan expire or are forfeited and would otherwise have been returned to the share reserve under the 2005 Plan, the shares of common stock subject to such awards instead will be available for future issuance under the 2010 Plan. See footnote 3.

- (3) To the extent outstanding awards under the 2005 Plan expire or are forfeited and would otherwise have been returned to the share reserve under the 2005 Plan, the shares of common stock subject to such awards instead will be available for future issuance under the 2010 Plan. See footnote 2.
 - (4) Estimated in accordance with Rule 457(h) solely for purposes of calculating the registration fee on the basis of \$16.46, the average of the high and low prices of Registrant's common stock as reported on the NASDAQ Global Select Market on October 27, 2010.
 - (5) Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of 85% of \$16.46, the average of the high and low prices of Registrant's common stock as reported on the NASDAQ Global Select Market on October 27, 2010. 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 relevant purchase period within the offering period.
 - (6) Estimated in accordance with Rule 457(h) solely for purposes of calculating the registration fee on the basis of \$16.46, the average of the high and low prices of Registrant's common stock as reported on the NASDAQ Global Select Market on October 27, 2010.
 - (7) Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of \$6.29 per share.
 - (8) Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of \$0.22 per share.
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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 Prospectus filed with the Commission on October 27, 2010, pursuant to Rule 424(b) under the Securities Act of 1933, as amended (the "Securities Act"), relating to the Registration Statement on Form S-1, as amended (File No. 333-168858), which contains the Registrant's audited financial statements for the latest fiscal year for which such statements have been filed; and

(2) 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")
4.2*	2004 Equity Incentive Plan and forms of option agreements thereunder (which are incorporated herein by reference to Exhibit 10.2 to the Registrant's Form S-1)
4.3*	2005 Stock Plan and forms of option agreements thereunder (which are incorporated herein by reference to Exhibit 10.3 to the Registrant's Form S-1)
4.4*	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)
4.5*	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)
4.6*	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 PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
23.2	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 periodic 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.

INDEX TO EXHIBITS

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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

October 29, 2010

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 14,273,463 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, 2010 Outside Director Equity Incentive Plan, 2005 Stock Plan and 2004 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 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 August 16, 2010 except for the first paragraph of Note 13, as to which the date is September 30, 2010, relating to the financial statements of Pacific Biosciences of California, Inc., which appears in such Registration Statement (No. 333-168858) on Form S-1 filed on October 20, 2010.

/s/ PricewaterhouseCoopers LLP
San Jose, California
October 29, 2010