

FLUIDIGM CORP  
Form S-1/A  
August 13, 2008

As filed with the Securities and Exchange Commission on August 13, 2008

Registration No. 333-150227

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

AMENDMENT NO. 5 TO  
Form S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

**FLUIDIGM CORPORATION**

*(Exact name of Registrant as specified in its charter)*

**Delaware**

*(State or other jurisdiction of  
incorporation or organization)*

**3826**

*(Primary Standard Industrial  
Classification Code Number)*

**77-0513190**

*(I.R.S. Employer  
Identification Number)*

**7000 Shoreline Court, Suite 100  
South San Francisco, CA 94080  
(650) 266-6000**

*(Address, including zip code, and telephone number,  
including area code, of Registrant's principal executive offices)*

**Gajus V. Worthington  
President and Chief Executive Officer**

**7000 Shoreline Court, Suite 100  
South San Francisco, CA 94080  
(650) 266-6000**

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

*Copies to:*

**David J. Segre**  
**Robert F. Kornegay**  
**Asaf H. Kharal**  
**Wilson Sonsini Goodrich & Rosati**  
**P.C.**  
**650 Page Mill Road**  
**Palo Alto, CA 94304**  
**Telephone: (650) 493-9300**  
**Telecopy: (650) 493-6811**

**William M. Smith**  
**Vice President, Legal Affairs**  
**and General Counsel**  
**7000 Shoreline Court, Suite 100**  
**South San Francisco, CA 94080**  
**Telephone: (650) 266-6000**  
**Telecopy: (650) 871-7152**

**Charles K. Ruck**  
**B. Shayne Kennedy**  
**Latham & Watkins LLP**  
**650 Town Center Drive, 20<sup>th</sup> Floor**  
**Costa Mesa, CA 92626**  
**Telephone: (714) 540-1235**  
**Telecopy: (714) 755-8290**

**Approximate date of commencement of proposed sale to the public:** As soon as practicable after the effective date of this Registration Statement.

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, as amended, 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.      

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.      

If this Form is a post-effective amendment filed pursuant to Rule 462(d) 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.      

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 Ruler 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting  
company

(Do not check if a smaller reporting company)

**The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this**

**Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.**

---

**EXPLANATORY NOTE**

Fluidigm Corporation has prepared this Amendment No. 5 to the Registration Statement on Form S-1 (File No. 333-150227) for the purpose of refiling Exhibits 4.2, 4.4, 10.6, 10.9 and 10.15 to the Registration Statement with the Securities and Exchange Commission. This Amendment No. 5 does not modify any provision of the prospectus that forms a part of the Registration Statement, and accordingly such prospectus has not been included herein.

---

**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 13. *Other Expenses of Issuance and Distribution.***

The following table sets forth all expenses to be paid by the registrant, other than estimated underwriting discounts and commissions, in connection with this offering. All amounts shown are estimates except for the SEC registration fee, the NASD filing fee and the NASDAQ Global Market listing fee.

SEC registration fee	\$ 3,390
NASD filing fee	9,125
NASDAQ Global Market listing fee	*
Printing and engraving	*
Legal fees and expenses	*
Accounting fees and expenses	*
Blue sky fees and expenses (including legal fees)	*
Transfer agent and registrar fees	*
Miscellaneous	*
Total	*

\* To be provided by amendment.

**Item 14. *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 includes provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, the bylaws of the registrant 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 not required by 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.

II-1

---

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. The registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

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.

The underwriting agreement filed as Exhibit 1.1 to this registration statement provides for indemnification by the underwriters of the registrant and its officers and directors for certain liabilities arising under the Securities Act and otherwise.

**Item 15. *Recent Sales of Unregistered Securities.***

In the three years prior to the filing of this registration statement, the registrant has issued the following unregistered securities:

(a) From March 2005 through July 17, 2007, Fluidigm Corporation, a California corporation, issued and sold an aggregate of 470,965 shares of its common stock upon the exercise of options issued to certain employees, directors and consultants under the registrant's 1999 Stock Option Plan, as amended, at exercise prices ranging from \$0.30 to \$0.83, for aggregate consideration of \$188,442. From July 18, 2007 through May 22, 2008, the registrant issued and sold an aggregate of 250,720 shares of its common stock upon the exercise of options issued to certain employees, directors and consultants under the registrant's 1999 Stock Option Plan, as amended, at exercise prices ranging from \$0.30 to \$1.36 per share, for aggregate consideration of \$123,346.

(b) From March 2005 through July 17, 2007, Fluidigm Corporation, a California corporation, granted to certain of its employees, directors and consultants under the registrant's 1999 Stock Option Plan, as amended, options to purchase an aggregate of 3,986,044 shares of its common stock at exercise prices ranging from \$0.30 to \$1.36 per share. From July 18, 2007 through May 22, 2008, the registrant granted to certain of its employees, directors and consultants under the registrant's 1999 Stock Option Plan, as amended, options to purchase an aggregate of 452,200 shares of the registrant's common stock at exercise prices ranging from \$1.38 to \$2.40 per share.

(c) In March 2005, Fluidigm Corporation, a California corporation, pursuant to a loan and security agreement, issued and sold a warrant to purchase 371,428 shares of its Series D Preferred Stock to one accredited investor at an exercise price of \$2.80 per share. In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the warrant was converted into a warrant to purchase an equal number of shares of the registrant's Series D Preferred Stock.

(d) In November 2005, Fluidigm Corporation, a California corporation, issued and sold 70,000 shares of its common stock to one accredited investor at an issuance price of \$0.56 per share for aggregate monetary consideration of \$39,200, which amount was deemed paid by the transfer of certain rights granted to registrant pursuant to the terms of a licensing agreement.

(e) In December 2005, Fluidigm Corporation, a California corporation, issued 832,635 shares of its Series D Preferred Stock to one accredited investor in connection with the conversion of a convertible promissory note at a conversion price per share of \$2.80.

(f) In June 2006, Fluidigm Corporation, a California corporation, issued to one accredited investor a convertible promissory notes in an aggregate principal amount of \$3,000,000 convertible into shares of its Series D Preferred Stock. In July 2007, the notes were converted into 1,157,142 shares of Series D Preferred Stock at a conversion price per share of \$2.80.



(g) In June 2006, Fluidigm Corporation, a California corporation, issued 214,285 shares of its Series D Preferred Stock to one accredited investor at an issuance price of \$2.80 per share, for aggregate monetary consideration of \$599,998, which amount was deemed paid by the transfer of certain rights granted to registrant pursuant to the terms of a licensing agreement.

(h) In June 2006, Fluidigm Corporation, a California corporation, issued 267,858 shares of its Series D Preferred Stock to one accredited investor in connection with the exercise of a warrant to purchase shares of its Series D Preferred Stock at an exercise price per share of \$2.80.

(i) From August 2006 through April 2007, Fluidigm Corporation, a California corporation, issued three convertible promissory notes to one accredited investor in an aggregate principal amount of \$15,000,000, all of which were convertible into shares of its Series E Preferred Stock. In March 2007, two of the notes were converted into an aggregate of 2,954,337 shares of the Series E Preferred Stock of Fluidigm Corporation, a California corporation. In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the remaining outstanding convertible promissory note was made convertible into shares of the registrant's Series E Preferred Stock.

(j) In March 2007, Fluidigm Corporation, a California corporation, issued 100,000 shares of its common stock to one accredited investor at an issuance price of \$0.83 per share, for aggregate monetary consideration of \$83,000, which amount was deemed paid by the transfer of certain rights granted to registrant pursuant to the terms of a licensing agreement.

(k) In May 2007, Fluidigm Corporation, a California corporation, granted to seven of its employees and directors under the registrant's 1999 Stock Option Plan, as amended, options to purchase an aggregate of 767,000 shares of its common stock at an exercise price of \$1.36 per share.

(l) In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the registrant issued an aggregate of 9,695,998 shares of common stock to a total of 128 stockholders in exchange for the outstanding shares of common stock Fluidigm Corporation, a California corporation.

(m) In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the registrant issued an aggregate of 2,727,273 shares of the registrant's Series A Preferred Stock to a total of 41 investors in exchange for the outstanding shares of Series A Preferred Stock of Fluidigm Corporation, a California corporation.

(n) In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the registrant issued an aggregate of 6,460,675 shares of the registrant's Series B Preferred Stock to a total of 35 investors in exchange for the outstanding shares of Series B Preferred Stock of Fluidigm Corporation, a California corporation.

(o) In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the registrant issued an aggregate of 16,364,832 shares of the registrant's Series C Preferred Stock to a total of 62 investors in exchange for the outstanding shares of Series C Preferred Stock of Fluidigm Corporation, a California corporation.

(p) In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the registrant issued an aggregate of 12,196,191 shares of the registrant's Series D Preferred Stock to a total of 52 investors in exchange for the outstanding shares of Series D Preferred Stock of Fluidigm Corporation, a California corporation.

(q) In connection with the registrant's reincorporation into the State of Delaware on July 18, 2007, the registrant issued an aggregate of 8,969,836 shares of the registrant's Series E Preferred Stock to a total of 35 investors in exchange for the outstanding shares of Series E Preferred Stock of Fluidigm Corporation, a California corporation.

(r) From October 2007 through December 2007, the registrant issued and sold an aggregate of 8,794,945 shares of Series E Preferred Stock to a total of seven investors at \$4.00 per share, for aggregate proceeds of \$35,179,780.

II-3

---

(s) In December 2007, the registrant issued 6,000 shares of its common stock to one accredited investor at an issuance price of \$1.36 per share for aggregate monetary consideration of \$8,160, which amount was deemed paid by the transfer of certain rights granted to registrant pursuant to the terms of a licensing agreement.

(t) In December 2007, the registrant granted to one of its directors under the registrant's 1999 Stock Option Plan, as amended, options to purchase an aggregate of 100,000 shares of the registrant's common stock at an exercise price of \$2.40 per share.

(u) In February 2008, the registrant issued a warrant to purchase 100,000 shares of the registrant's Series E Preferred Stock to one accredited investor at an exercise price of \$4.00 per share.

(v) In February 2008, the registrant granted to one of its executive officers under the registrant's 1999 Stock Option Plan, as amended, options to purchase an aggregate of 600,000 shares of the registrant's common stock at an exercise price of \$2.40 per share.

(w) In April 2008, the registrant granted to six of its employees and directors under the registrant's 1999 Stock Option Plan, as amended, options to purchase an aggregate of 1,090,000 shares of its common stock at an exercise price of \$3.19 per share.

(x) On May 12, 2008, the registrant issued 16,422 shares of its Series C Preferred Stock to Imperial Bank pursuant to Imperial Bank's net exercise of its warrant to purchase up to 41,284 shares of Series C Preferred Stock. The remainder of the warrant was cancelled pursuant to the terms of the net exercise.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering, and the registrant believes that each transaction was exempt from the registration requirements of the Securities Act in reliance on the following exemptions:

with respect to the transactions described in paragraphs (a) and (b), Rule 701 promulgated under the Securities Act as transactions pursuant to a compensatory benefit plan approved by the registrant's Board of Directors;

with respect to the transactions described in paragraphs (1) through (q), Rule 145(a)(2) promulgated under the Securities Act as transactions pursuant to a plan or agreement for statutory merger or similar plan or acquisition in which securities of the registrant were exchanged for the securities of Fluidigm Corporation, a California corporation, the sole purpose of which was to change the registrant's domicile solely within the United States, and a Permit granted pursuant to Section 25121 of the California Corporations Code; and

with respect to the transactions described in paragraphs (c) through (k) and paragraphs (r) through (x), Section 4(2) of the Securities Act, or Rule 506 of Regulation D promulgated thereunder, as transactions by an issuer not involving a public offering. Each recipient of the securities in this transaction represented his or her intention to acquire the securities for investment only and not with a view to, or for resale in connection with, any distribution thereof, and appropriate legends were affixed to the share certificates issued in each such transaction. In each case, the recipient received adequate information about the registrant or had adequate access, through his or her relationship with the registrant, to information about the registrant.

**Item 16. Exhibits and Financial Statement Schedules.**

(a) *Exhibits.* The following exhibits are included herein or incorporated herein by reference:

<b>Exhibit Number</b>	<b>Description</b>
1.1 <sup>(1)</sup>	Form of Underwriting Agreement.
3.1 <sup>(3)</sup>	Certificate of Incorporation of the Registrant, as currently in effect.
3.2 <sup>(3)</sup>	Form of Restated Certificate of Incorporation of the Registrant, to be in effect upon the completion of this offering.
3.3 <sup>(3)</sup>	Bylaws of the Registrant.
3.4 <sup>(1)</sup>	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon completion of this offering.
4.1 <sup>(1)</sup>	Specimen Common Stock Certificate of the Registrant.

Exhibit Number	Description
4.2	Series E Preferred Stock Purchase Agreement dated June 13, 2006 through December 31, 2007 between the Registrant and the Purchasers set forth therein, as amended.
4.3 <sup>(3)</sup>	Eighth Amended and Restated Investor Rights Agreement between the Registrant and certain holders of the Registrant's common stock named therein, including amendments No. 1 and No. 2.
4.4 <sup>(2)</sup>	Loan and Security Agreement No. 4561 between the Registrant and Lighthouse Capital Partners V, L.P. dated March 29, 2005, including amendments Nos. 1 through 4.
4.4A <sup>(3)</sup>	Preferred Stock Purchase Warrant issued to Lighthouse Capital Partners V, L.P. effective March 29, 2005.
4.4B <sup>(3)</sup>	Negative Pledge Agreement by and between the Registrant and Lighthouse Capital Partners V, L.P. dated March 29, 2005.
4.5 <sup>(3)</sup>	Convertible Note Purchase Agreement by and between Biomedical Sciences Investment Fund Pte Ltd and the Registrant dated August 7, 2006.
4.5A <sup>(2)(3)</sup>	Convertible Promissory Note issued to Biomedical Sciences Investment Fund Pte Ltd dated April 19, 2007, as amended.
5.1 <sup>(1)</sup>	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.
10.1 <sup>(3)</sup>	Form of Indemnification Agreement between the Registrant and its directors and officers.
10.2 <sup>(3)</sup>	1999 Stock Plan of the Registrant, as amended April 24, 2008.
10.2A <sup>(3)</sup>	Forms of agreements under the 1999 Stock Plan.
10.3 <sup>(1)</sup>	2008 Equity Incentive Plan.
10.3A <sup>(1)</sup>	Forms of agreements under the 2008 Equity Incentive Plan.
10.4 <sup>(2)(3)</sup>	Second Amended and Restated License Agreement by and between California Institute of Technology and the Registrant effective as of May 1, 2004.
10.4A <sup>(2)(3)</sup>	First Addendum, effective as of March 29, 2007, to Second Amended and Restated License Agreement by and between California Institute of Technology and the Registrant effective as of May 1, 2004.
10.5 <sup>(2)(3)</sup>	Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.5A <sup>(2)(3)</sup>	First Amendment to Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.6 <sup>(2)</sup>	Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.7 <sup>(2)(3)</sup>	Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.8 <sup>(2)(3)</sup>	Patent License Agreement by and between Gyros AB and the Registrant dated January 9, 2003.
10.8A <sup>(2)(3)</sup>	Amendment No. 1 dated January 9, 2005 to Patent License Agreement by and between Gyros AB and the Registrant dated January 9, 2003.
10.9 <sup>(2)</sup>	Master Closing Agreement by and between UAB Research Foundation, Oculus Pharmaceuticals, Inc. and the Registrant dated March 7, 2003.
10.9A <sup>(2)(3)</sup>	License Agreement by and between UAB Research Foundation and the Registrant dated March 7, 2003.
10.10 <sup>(2)(3)</sup>	Amended and Restated Letter Agreement Regarding Application for Incentives Under the Research Incentive Scheme for Companies (RISC) dated March 27, 2008 (originally dated October 7, 2005), by and between Singapore Economic Development Board and Fluidigm Singapore Pte. Ltd.
10.10A <sup>(2)(3)</sup>	

Supplement Dated January 11, 2006 to Letter Agreement Relating to Application for Incentives under the Research Incentive Scheme for Companies (RISC), dated October 7, 2005 between Singapore Economic Development Board and Fluidigm Singapore Pte. Ltd.

10.11<sup>(2)(3)</sup>

Amended and Restated Letter Agreement Regarding Application for Incentives Under the Research Incentive Scheme for Companies (RISC) dated March 27, 2008 (originally dated February 12, 2007), by and between Singapore Economic Development Board and Fluidigm Singapore Pte. Ltd.

II-5

---

Exhibit Number	Description
10.12 <sup>(2)(3)</sup>	Distribution Agreement by and between Eppendorf AG and the Registrant effective as of April 1, 2005.
10.13 <sup>(3)</sup>	Form of Employment and Severance Agreement between the Registrant and each of its executive officers.
10.14 <sup>(3)</sup>	Consulting Agreement by and between the Registrant and Richard DeLateur dated February 29, 2008.
10.15	Employee Loan Agreement with Gajus Worthington dated January 20, 2004.
10.15A <sup>(3)</sup>	Stock Repurchase Agreement between the Registrant and Gajus V. Worthington dated April 10, 2008.
10.16 <sup>(3)</sup>	Offer Letter to Vikram Jog dated January 29, 2008.
10.17 <sup>(3)</sup>	Settlement Agreement and General Release of all Claims by and between Michael Ybarra Lucero and the Registrant dated March 20, 2008.
10.18 <sup>(2)(3)</sup>	Letter Agreement between President and Fellows of Harvard College and the Registrant dated December 22, 2004.
21.1 <sup>(3)</sup>	List of subsidiaries of Registrant.
23.1 <sup>(3)</sup>	Consent of Independent Registered Public Accounting Firm.
23.2 <sup>(1)</sup>	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1).
24.1 <sup>(3)</sup>	Power of Attorney.

- (1) To be filed by amendment.
- (2) Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.
- (3) Previously filed.

(b) *Financial Statement Schedules.*

All schedules have been omitted because the information required to be presented in them is not applicable or is shown in the consolidated financial statements or related notes.

**Item 17. Undertakings.**

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

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 Act and will be

governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to

II-6

---



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) For the purpose of determining liability under the Securities Act of 1933 to any purchaser, if the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(4) For the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser to the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchasers and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Amendment No. 5 to the 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 the 13th day of August 2008.

**FLUIDIGM CORPORATION**

By: /s/ Gajus V. Worthington  
 Gajus V. Worthington  
*President and Chief Executive Officer*

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 5 to the registration statement has been signed by the following persons in the capacities indicated on the 12th day of August 2008.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
/s/ Gajus V. Worthington Gajus V. Worthington	President, Chief Executive Officer and Director (Principal Executive Officer)	August 13, 2008
/s/ Vikram Jog Vikram Jog	Chief Financial Officer (Principal Accounting and Financial Officer)	August 13, 2008
*	Director	August 13, 2008
Samuel Colella		
*	Director	August 13, 2008
Michael W. Hunkapiller		
*	Director	August 13, 2008
Elaine V. Jones		
*	Director	August 13, 2008
Kenneth Nussbacher		
*	Director	August 13, 2008
John A. Young		

\*By: /s/ Gajus V. Worthington

Gajus V. Worthington  
Attorney-in-Fact

II-8

---

**EXHIBIT INDEX**

<b>Exhibit Number</b>	<b>Description</b>
1.1 <sup>(1)</sup>	Form of Underwriting Agreement.
3.1 <sup>(3)</sup>	Certificate of Incorporation of the Registrant, as currently in effect.
3.2 <sup>(3)</sup>	Form of Restated Certificate of Incorporation of the Registrant, to be in effect upon the completion of this offering.
3.3 <sup>(3)</sup>	Bylaws of the Registrant.
3.4 <sup>(1)</sup>	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon completion of this offering.
4.1 <sup>(1)</sup>	Specimen Common Stock Certificate of the Registrant.
4.2	Series E Preferred Stock Purchase Agreement dated June 13, 2006 through December 31, 2007 between the Registrant and the Purchasers set forth therein, as amended.
4.3 <sup>(3)</sup>	Eighth Amended and Restated Investor Rights Agreement between the Registrant and certain holders of the Registrant's common stock named therein, including amendments No. 1 and No. 2.
4.4 <sup>(2)</sup>	Loan and Security Agreement No. 4561 between the Registrant and Lighthouse Capital Partners V, L.P. dated March 29, 2005, including amendments Nos. 1 through 4.
4.4A <sup>(3)</sup>	Preferred Stock Purchase Warrant issued to Lighthouse Capital Partners V, L.P. effective March 29, 2005.
4.4B <sup>(3)</sup>	Negative Pledge Agreement by and between the Registrant and Lighthouse Capital Partners V, L.P. dated March 29, 2005.
4.5 <sup>(3)</sup>	Convertible Note Purchase Agreement by and between Biomedical Sciences Investment Fund Pte Ltd and the Registrant dated August 7, 2006.
4.5A <sup>(2)(3)</sup>	Convertible Promissory Note issued to Biomedical Sciences Investment Fund Pte Ltd dated April 19, 2007, as amended.
5.1 <sup>(1)</sup>	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.
10.1 <sup>(3)</sup>	Form of Indemnification Agreement between the Registrant and its directors and officers.
10.2 <sup>(3)</sup>	1999 Stock Plan of the Registrant, as amended April 24, 2008.
10.2A <sup>(3)</sup>	Forms of agreements under the 1999 Stock Plan.
10.3 <sup>(1)</sup>	2008 Equity Incentive Plan.
10.3A <sup>(1)</sup>	Forms of agreements under the 2008 Equity Incentive Plan.
10.4 <sup>(2)(3)</sup>	Second Amended and Restated License Agreement by and between California Institute of Technology and the Registrant effective as of May 1, 2004.
10.4A <sup>(2)(3)</sup>	First Addendum, effective as of March 29, 2007, to Second Amended and Restated License Agreement by and between California Institute of Technology and the Registrant effective as of May 1, 2004.
10.5 <sup>(2)(3)</sup>	Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.5A <sup>(2)(3)</sup>	First Amendment to Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.6 <sup>(2)</sup>	Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.7 <sup>(2)(3)</sup>	Co-Exclusive License Agreement between President and Fellows of Harvard College and the Registrant effective as of October 15, 2000.
10.8 <sup>(2)(3)</sup>	Patent License Agreement by and between Gyros AB and the Registrant dated January 9, 2003.
10.8A <sup>(2)(3)</sup>	Amendment No. 1 dated January 9, 2005 to Patent License Agreement by and between Gyros AB and the Registrant dated January 9, 2003.



Exhibit Number	Description
10.9 <sup>(2)</sup>	Master Closing Agreement by and between UAB Research Foundation, Oculus Pharmaceuticals, Inc. and the Registrant dated March 7, 2003.
10.9A <sup>(2)(3)</sup>	License Agreement by and between UAB Research Foundation and the Registrant dated March 7, 2003.
10.10 <sup>(2)(3)</sup>	Amended and Restated Letter Agreement Regarding Application for Incentives Under the Research Incentive Scheme for Companies (RISC) dated March 27, 2008 (originally dated October 7, 2005), by and between Singapore Economic Development Board and Fluidigm Singapore Pte. Ltd.
10.10A <sup>(2)(3)</sup>	Supplement Dated January 11, 2006 to Letter Agreement Relating to Application for Incentives under the Research Incentive Scheme for Companies (RISC), dated October 7, 2005 between Singapore Economic Development Board and Fluidigm Singapore Pte. Ltd.
10.11 <sup>(2)(3)</sup>	Amended and Restated Letter Agreement Regarding Application for Incentives Under the Research Incentive Scheme for Companies (RISC) dated March 27, 2008 (originally dated February 12, 2007), by and between Singapore Economic Development Board and Fluidigm Singapore Pte. Ltd.
10.12 <sup>(2)(3)</sup>	Distribution Agreement by and between Eppendorf AG and the Registrant effective as of April 1, 2005.
10.13 <sup>(3)</sup>	Form of Employment and Severance Agreement between the Registrant and each of its executive officers.
10.14 <sup>(3)</sup>	Consulting Agreement by and between the Registrant and Richard DeLateur dated February 29, 2008.
10.15	Employee Loan Agreement with Gajus Worthington dated January 20, 2004.
10.15A <sup>(3)</sup>	Stock Repurchase Agreement between the Registrant and Gajus V. Worthington dated April 10, 2008.
10.16 <sup>(3)</sup>	Offer Letter to Vikram Jog dated January 29, 2008.
10.17 <sup>(3)</sup>	Settlement Agreement and General Release of all Claims by and between Michael Ybarra Lucero and the Registrant dated March 20, 2008.
10.18 <sup>(2)(3)</sup>	Letter Agreement between President and Fellows of Harvard College and the Registrant dated December 22, 2004.
21.1 <sup>(3)</sup>	List of subsidiaries of Registrant.
23.1 <sup>(3)</sup>	Consent of Independent Registered Public Accounting Firm.
23.2 <sup>(1)</sup>	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1).
24.1 <sup>(3)</sup>	Power of Attorney.

- (1) To be filed by amendment.
- (2) Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.
- (3) Previously filed.