

September 25, 2008

**VIA EDGAR AND
OVERNIGHT DELIVERY**

Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F. Street, N.E.
Washington, DC 20549-1004
Attention: Russell Mancuso, Branch Chief
Joseph McCann

Re: Fluidigm Corporation
Registration Statement on Form S-1 (File No. 333-150227)
Application for Withdrawal of Registration Statement

Ladies and Gentlemen:

Pursuant to Rule 477 promulgated under the Securities Act of 1933, as amended (the “**Securities Act**”), Fluidigm Corporation (the “**Company**”) hereby respectfully requests withdrawal of its Registration Statement on Form S-1 (File No. 333-150227), together with all exhibits and the amendment thereto (collectively, the “**Registration Statement**”). The Registration Statement was initially filed with the Securities and Exchange Commission (the “**Commission**”) on April 14, 2008.

In light of current public market conditions, the Company has determined not to proceed with the offering described in the Registration Statement at this time. The Company confirms that no securities have been or will be distributed, issued or sold pursuant to the Registration Statement or the prospectus contained therein. Furthermore, the Registration Statement was not declared effective by the Commission. The Company requests, in accordance with Rule 457(p) under the Securities Act, that all fees paid to the Commission in connection with the filing of the Registration Statement be credited to the Company’s account to be offset against the filing fee for any future registration statement(s).

It is our understanding that this application for withdrawal of the Registration Statement will be deemed granted as of the date that it is filed with the Commission unless, within fifteen days after such date, the Company receives notice from the Commission that this application will not be granted.

If you have any questions regarding the foregoing application for withdrawal, please contact our counsel, Dave Segre of Wilson, Sonsini, Goodrich and Rosati, Professional Corporation, at (650) 320-4554.

Sincerely,
FLUIDIGM CORPORATION

By: /s/ Gajus Worthington

Name: Gajus Worthington

Title: President and Chief Executive Officer