

May 9, 2012

**Re: Fluidigm Corporation (the "Company")**  
**Registration Statement on Form S-3**  
**Registration Statement No. 333-180550**

Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, DC 20549  
Attn: Russell Mancuso, Branch Chief

Dear Mr. Mancuso:

In accordance with Rule 460 and Rule 461 under the Securities Act of 1933, as amended, the undersigned registrant hereby requests the effective date for the Registration Statement referred to above be accelerated so that it will be declared effective at 3:30 p.m. ET on May 10, 2012 or as soon thereafter as is practicable. The Company acknowledges that: (i) should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing; (ii) the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and (iii) the Company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Sincerely,

FLUIDIGM CORPORATION

By: /s/ William M. Smith

Name: William M. Smith

Title: Executive Vice President, Legal Affairs,  
General Counsel and Secretary

cc: Jay Mumford  
Robert F. Kornegay  
Michael Nordtvedt