



DIVISION OF  
CORPORATION FINANCE

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

March 20, 2012

Via E-Mail

Frederick W. Kanner, Esq.  
Dewey & LeBoeuf LLP  
1301 Avenue of the Americas  
New York, NY 10019

**Re: Illumina, Inc.  
Definitive Additional Materials  
Filed on March 19, 2012  
File No. 1-35406**

Dear Mr. Kanner:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Definitive Additional Material

1. We note that you have included non-GAAP earnings per share (EPS) information. Please revise or advise us as to the consideration given to whether this non-GAAP financial measure would require additional disclosure pursuant to Rule 100(a) of Regulation G and Item 10(e) of Regulation S-K. Please refer to Question 102.05, Non-GAAP Financial Measures section of the Division's Compliance and Disclosure Interpretations. We may have additional comments after we review your response.
2. Please revise or supplementally provide us with support for the statement that Illumina has generated a 1,129% return for its stockholders over the ten-year period ending January 2012.

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3. We note the statement that “if successful, Roche’s scheme would remove our CEO and three independent, experienced and highly qualified directors;” however, Roche is not proposing to remove any directors. Please revise.

Please direct any questions to me at (202) 551-3411. You may also contact me via facsimile at (202) 772-9203. Please send all correspondence to us at the following ZIP code: 20549-3628.

Sincerely,

/s/ Peggy Kim

Peggy Kim  
Special Counsel  
Office of Mergers & Acquisitions