



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

February 10, 2012

Via E-Mail

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

**Re: Illumina, Inc.**  
**Schedule 14D-9 filed on February 7, 2012**  
**File No. 5-60457**

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.

Schedule 14D-9

Reasons for Recommendation, page 20

The Offer is grossly inadequate and dramatically undervalues..., page 20

1. Please revise or provide further support for the following statements:

- "...Illumina enjoys a 60% share of the next-generation sequencing market....Globally, the Board believes that approximately 90% of the world's sequencing output is produced on Illumina instruments," on page

20; and

- “Illumina has routinely delivered compelling results, achieving annual increases in revenue and EPS at compounded growth rates of approximately 42% and 26%, respectively, since 2006. Illumina has created significant value...generating an 84% return compared to a 9% decline in the S&P 500,” on page 21.

The timing of the Offer is blatantly opportunistic..., page 21

2. Regarding your statements about future growth, value and benefit in the last bullet point, please revise to present more balanced disclosure and clarify that you cannot guarantee or be assured of future performance despite historical performance.

Illumina has received inadequacy opinions from its financial advisors, page 23

3. We note that the inadequacy opinions from your financial advisors are one of the reasons for your recommendation to reject the tender offer. Notwithstanding the absence of a specific item requirement in the Schedule 14D-9, please advise us as to what consideration was given to summarizing your discussions with the financial advisors and attaching any written analyses or presentation materials related to their inadequacy opinions. Refer to Item 8 of Schedule 14D-9 and Item 1011(c) of Regulation M-A.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to the disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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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