



DIVISION OF  
CORPORATION FINANCE

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

November 19, 2010

Ms. Adelene Q. Perkins  
President and Chief Executive Officer  
Infinity Pharmaceuticals, Inc.  
780 Memorial Drive,  
Cambridge, Massachusetts 02139

**Re: Infinity Pharmaceuticals, Inc.**  
**Form 10-K for the Fiscal Year Ended December 31, 2009**  
**File No. 000-31141**

Dear Ms. Perkins:

We have reviewed your October 21, 2010 response to our October 13, 2010 comments and have the following comment.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. Please furnish us a letter on EDGAR under the form type label CORRESP.

After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

Note 7 – Loan Commitment Asset, page 74

1. We acknowledge your response to prior comment one. You indicate that you recorded the offset to the loan commitment asset to additional paid-in-capital because Purdue became a significant related party as a result of the November 2008 Strategic Alliance Agreement. Prior to this agreement, there did not appear to be a related party relationship with Purdue and, ostensibly, the strategic alliance with Purdue was negotiated at arm's length. In these circumstances, if the only rights and privileges exchanged are represented by the revenue arrangement (i.e. to develop and commercialize products targeting FAAH), the stock, and the access to a below market line of credit, it appears that the deferred revenue would equal the sum of the fair value of the line of credit and the premium paid over the quoted market price of the stock. Accordingly, it would appear that the amount recorded directly to APIC should have been recorded to deferred revenue. The statement in your response that "had we not negotiated for the line of credit with its favorable terms, we would have sought to capture the value received in the arrangement in some other fashion" appears to support this outcome. Please advise.

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You may contact Ibolya Ignat, Staff Accountant at (202) 551-3656, or Gus Rodriguez, Accounting Branch Chief, at (202) 551-3752 if you have questions regarding this comment. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg  
Senior Assistant Chief Accountant