

John J. Concannon III  
Direct Phone: 617.951.8874  
Direct Fax: 617.951.8736  
jack.concannon@bingham.com

**Via Federal Express**

April 26, 2010

Office of the Chief Counsel  
Division of Corporation Finance  
100 F Street, NE  
Washington, DC 20549  
Attn: Bryan Pitko

Re: Access Pharmaceuticals, Inc. – File No. 333-149633  
Post-Effective Amendment No. 1 to Form S-1 Filed on April 14, 2010.

Dear Mr. Pitko:

On behalf of our client, Access Pharmaceuticals, Inc., a Delaware corporation (the "Company"), set forth below is the Company's response to the comments of the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") contained in your letter dated April 22, 2010. For ease of reference, the comments are printed below in bold print, followed by the Company's responses.

**1. We note that the underlying registration statement effective November 13, 2008 included tabular disclosures which were provided in response to our comments. We also note that your post-effective amendment to this registration statement omitted each of these tabular disclosures from the prospectus. Please revise your post-effective amendment to provide tabular disclosure which includes the following information with respect to the offering:**

The Company has filed with the Commission, concurrently with this response letter, Post Effective Amendment No. 2 to Form S-1 Filed on April 26, 2010 ("Amendment No. 2"). This Amendment No. 2 amends the previously filed post-effective amendment to include the tabular disclosure requested above and included in the original registration statement on Form S-1/A filed on October 8, 2009.

- **Details of the issuance of the Series A Preferred Stock that is being registered for resale, including the form of consideration paid, the dates of acquisition, the number of underlying shares of common stock, the conversion price per share, the market price, and the total profit received upon conversion;**

Please see Table 1 included in Amendment No. 2 in the section titled "Selling Stockholders".

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- **Details of the gross proceeds received by the registrant in each private placement transaction, and compensation of this number of the placement agent fees paid to selling stockholders;**

Please see Table 1/A included in Amendment No. 2 in the section titled "Selling Stockholders".

- **Discussion of all payments to be made to selling shareholders in connection with the private placement transactions, including placement agent fees, liquidated damages, and dividends;**

Please see the text immediately following Table 1/A included in Amendment No. 2 in the section titled "Selling Stockholders".

- **Details of the total possible profit that the selling shareholders and their affiliates could realize as a result of the conversion discount for the securities underlying the warrants and options that they held prior to the registrant's issuance of Series A Preferred Stock; and**

Please see Table 3 included in Amendment No. 2 in the section titled "Selling Stockholders".

- **Description of the other securities transactions to which the registrant has been a party along with the selling stockholders and their affiliates. (This table should provide information regarding the date of the prior securities transaction, the principal amount of the convertible securities, the amount of common stock underlying the convertible securities, the market price per share immediately prior to the transaction, any placement agent fees paid, the number of shares in each transaction that had been previously registered, and the number of shares that had not been previously registered.)**

Please see Table 4 included in Amendment No. 2 in the section titled "Selling Stockholders".

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Subsequent to your review of Amendment No. 2 and our responses as indicated above, the Company will request under separate cover acceleration of effectiveness in accordance with Rules 460 and 461. If you have any questions regarding this matter or require any additional information, please contact me at (617) 951-8874. If the Staff disagrees with any of the conclusions set forth above, please contact the undersigned prior to the issuance of a written response.

Very truly yours,

/s/ John J. Concannon

John J. Concannon III, Esq.  
Bingham McCutchen, LLP

cc: Mr. Jeffrey B. Davis  
Mr. Stephen B. Thompson