

May 11, 2007

Via Fax ((202) 772-9218) and Edgar
 Mr. Russell Mancuso
 Branch Chief
 United States Securities and Exchange Commission
 Office of Emerging Growth Companies
 Mail Stop 3561
 100 F Street, N.E.
 Washington, D.C. 20549

Re: **Lixte Biotechnology Holdings, Inc.**
Amendment No. 5 to Form SB-2
Filed May 5, 2007
File No. 333-137208

Dear Mr. Mancuso:

Confirming our telephone conversation, we respond to your comments as follows:

1. Status of Form 10Q-SB filing for the quarter ended March 31, 2007.

Response

Currently the financial statements and notes are being reviewed by the Company's outside accountants. The Company continued to conduct its research and development business activities during the three months ended March 31, 2007. Transactions during the three months ended March 31, 2007, all within the scope of the Company's previously described business activities and transactions, included the recording of an advance on research and development costs of \$200,000 and a related current liability under the CRADA, and a charge to operations of \$31,000 for the fair value of a fully-vested, non-forfeitable stock option issued under a services agreement during the period.

2. Opinion letter comments:

Response

This will confirm that the reference in our opinion to the Delaware General Corporation Law includes all applicable provisions of the Delaware Constitution. We also confirm that our reference to "Shares" includes all the shares covered by the Registration Statement and that all of such shares are currently outstanding.

Mr. Russell Mancuso

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3. Status of "December 2006 Agreement."

Response

We now understand that your inquiry was as to the status of the proposed license agreement between NINDS, NIH and the Company. As disclosed in Amendment No. 5 the Company has received a form of proposed license agreement and intends to negotiate the economic terms.

* * *

We are concurrently attaching herewith a request for acceleration.

All questions and comments regarding the foregoing should be addressed to me at (310) 789-1290.

Very truly yours,

/s/ David L. Ficksman

DLF/wp

cc: John Kovach, M.D.
Dale Campbell
Robert Weingarten
Eduardo Aleman