

[LEXICON PHARMACEUTICALS LETTERHEAD]

December 14, 2007

Securities and Exchange Commission  
Division of Corporate Finance  
100 F Street, N.E.  
Washington, D.C. 20549

Attention: Mr. Mark Brunhofer  
Division of Corporate Finance

Re: *Lexicon Pharmaceuticals, Inc.*  
*Form 10-K for the fiscal year ended December 31, 2006*  
*Form 10-Q for the quarterly period ended September 30, 2007*  
*File No. 000-30111*

Dear Mr. Brunhofer:

Reference is made to the comment letter dated November 16, 2007 from the Securities and Exchange Commission's staff with respect to the above-referenced filings. We are currently preparing our responses to those comments and respectfully request an additional 5 business days, in addition to the previously requested extension of 10 business days, within which to provide you with those responses.

Please contact me at (281) 863-3321 if you are unable to grant this requested extension or if you have any additional comments or questions concerning this letter.

Very truly yours,

/s/ Jeffrey L. Wade

Jeffrey L. Wade

*Executive Vice President and General Counsel*