

LEXICON PHARMACEUTICALS, INC./DE  
Form RW  
January 28, 2011

[LEXICON PHARMACEUTICALS, INC. LETTERHEAD]

January 28, 2011

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

Attention: Ms. Jennifer Riegel

Re: Lexicon Pharmaceuticals, Inc.  
Request to Withdraw Registration Statement on Form S-3  
Filed August 9, 2010  
File No. 333-168677

Dear Ms. Riegel:

Pursuant to Rule 477 promulgated under the Securities Act of 1933, as amended, Lexicon Pharmaceuticals, Inc. (the "Company") hereby requests that the Securities and Exchange Commission (the "Commission") consent to the withdrawal, effective as of the date hereof or at the earliest practicable date hereafter, of its Registration Statement on Form S-3 (File No. 333-168677), together with all exhibits and amendments thereto (collectively, the "Registration Statement"). The Registration Statement was originally filed with the Commission on August 9, 2010.

The Registration Statement is being withdrawn at the request of the Commission and relates to the offer and sale by a selling stockholder of shares of the Company's common stock that may be issued by the Company directly to the selling stockholder pursuant to an Amended and Restated Purchase Option Agreement with the selling stockholder. The Company intends to re-file a registration statement on Form S-3 at the time such shares are issued to the selling stockholder.

Please do not hesitate to contact the undersigned at (281) 863-3321 with any comments or questions concerning this letter or the above-referenced registration statement.

Very truly yours,

/s/ Jeffrey L. Wade

Jeffrey L. Wade  
Executive Vice President, Corporate Development and  
Chief Financial Officer