

Via Facsimile and U.S. Mail  
Mail Stop 4720

March 11, 2010

Dr. Arthur T. Sands, M.D., Ph.D.  
President and Chief Executive Officer  
Lexicon Pharmaceuticals, Inc.  
8800 Technology Forest Place  
The Woodlands, Texas 77381

**Re: Lexicon Pharmaceuticals, Inc.**  
**Form 10-K for the Year Ended December 31, 2008**  
**Filed March 6, 2009**  
**File No. 000-30111**  
**DEF14A**  
**Filed March 13, 2009**  
**File No. 000-30111**

Dear Dr. Sands:

We have completed our review of your filings and have no further comments at this time.

Sincerely,

Jeffrey P. Riedler  
Assistant Director