



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

DIVISION OF  
CORPORATION FINANCE

Mail Stop 4720

January 21, 2016

Prabhavathi Fernandes, Ph.D.  
President and Chief Executive Officer  
Cempra, Inc.  
6320 Quadrangle Drive, Suite 360  
Chapel Hill, NC 27517

**Re: Cempra, Inc.**  
**Form 10-K for the Fiscal Year Ended December 31, 2014**  
**Filed February 26, 2015**  
**File No. 001-35405**

Dear Dr. Fernandes:

We have completed our review of your filings. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filings and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Joel Parker

Joel Parker  
Accounting Branch Chief  
Office of Healthcare and Insurance