



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