



DIVISION OF
CORPORATION FINANCE

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

April 11, 2012

Via E-mail

Mr. David B. Johnston
Chief Financial Officer
AVEO Pharmaceuticals, Inc.
75 Sidney Street
Cambridge, MA 02139

Re: AVEO Pharmaceuticals, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed March 11, 2011
File No. 001-34655

Dear Mr. Johnston:

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/ Gus Rodriguez

Gus Rodriguez
Accounting Branch Chief