

AVEO PHARMACEUTICALS INC  
Form 424B3  
January 10, 2011

Filed Pursuant to Rule 424(b)(3)  
File No. 333-170535

**AVEO PHARMACEUTICALS, INC.**

**PROSPECTUS SUPPLEMENT NO. 2 DATED JANUARY 10, 2011**

**TO THE PROSPECTUS DATED NOVEMBER 10, 2010**

**4,500,000 SHARES**

**COMMON STOCK**

We are supplementing the prospectus included in the Registration Statement on Form S-1 dated November 10, 2010, which was declared effective by the Commission on November 23, 2010. The information contained herein supplements information set forth in the prospectus, including without limitation under the captions **Risk Factors**, **Risks Related to Our Financial Position and Capital Requirements** and **Management's Discussion and Analysis of Financial Condition and Results of Operations**, **Liquidity and Capital Resources**. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments and supplements thereto.

**Investing in our common stock involves risks. See **Risk Factors** beginning on page 7 of the prospectus.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.**

The prospectus, including without limitation the information concerning our operating plan set forth under the captions **Risk Factors**, **Risks Related to Our Financial Position and Capital Requirements** and **Management's Discussion and Analysis of Financial Condition and Results of Operations**, **Liquidity and Capital Resources** is supplemented as follows:

We believe that our existing cash and cash equivalents (including the proceeds received from our private placement of common stock in November 2010), marketable securities, committed research and development funding and milestone payments that we expect to receive under our existing strategic partnership and license agreements, will allow us to fund our operating plan into 2012.

In addition, on January 10, 2011, we reported that although we have not finalized our full financial results for the fourth quarter and fiscal year ended December 31, 2010, we expect to report that we had approximately \$140,000,000 in cash, cash equivalents and marketable securities as of December 31, 2010.

The information regarding our cash, cash equivalents and marketable securities as of December 31, 2010 is unaudited and preliminary, and does not present all information necessary for an understanding of our financial condition as of December 31, 2010 and our results of operations for the three months and year ended December 31, 2010. The audit of our consolidated financial statements for the year ended December 31, 2010 is

ongoing and could result in changes to the information set forth above.