

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL	
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>MPM BIOVENTURES II QP LP</u> (Last) (First) (Middle) C/O MPM ASSET MANAGEMENT 200 CLARENDON STREET, 54TH FLOOR (Street) BOSTON MA 02116 (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 03/11/2010	3. Issuer Name and Ticker or Trading Symbol <u>AVEO PHARMACEUTICALS INC [AVEO]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
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Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
Series A Convertible Preferred Stock	(1)	(1)	Common Stock	1,037,036 ⁽³⁾	(2)	I	See Footnote ⁽³⁾
Series B Convertible Preferred Stock	(1)	(1)	Common Stock	977,850 ⁽⁴⁾	(2)	I	See Footnote ⁽⁴⁾
Series D Convertible Preferred Stock	(1)	(1)	Common Stock	194,075 ⁽⁵⁾	(2)	I	See Footnote ⁽⁵⁾

1. Name and Address of Reporting Person*
MPM BIOVENTURES II QP LP
 (Last) (First) (Middle)
 C/O MPM ASSET MANAGEMENT
 200 CLARENDON STREET, 54TH FLOOR
 (Street)
 BOSTON MA 02116
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
MPM BIOVENTURES II LP
 (Last) (First) (Middle)
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 (Street)
 BOSTON MA 02116
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
MPM ASSET MANAGEMENT II LLC
 (Last) (First) (Middle)
 C/O MPM ASSET MANAGEMENT
 200 CLARENDON STREET, 54TH FLOOR
 (Street)
 BOSTON MA 02116
 (City) (State) (Zip)

(Street)
BOSTON MA 02116

(City) (State) (Zip)

1. Name and Address of Reporting Person*
[MPM ASSET MANAGEMENT INVESTORS
2002 BVII LLC](#)

(Last) (First) (Middle)
C/O MPM ASSET MANAGEMENT
200 CLARENDON STREET, 54TH FLOOR

(Street)
BOSTON MA 02116

(City) (State) (Zip)

1. Name and Address of Reporting Person*
[MPM BIOVENTURES GMBH & CO
PARALLEL BETEILIGUNGS KG](#)

(Last) (First) (Middle)
C/O MPM ASSET MANAGEMENT
200 CLARENDON STREET, 54TH FLOOR

(Street)
BOSTON MA 02116

(City) (State) (Zip)

1. Name and Address of Reporting Person*
[MPM ASSET MANAGEMENT II LP](#)

(Last) (First) (Middle)
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(City) (State) (Zip)

1. Name and Address of Reporting Person*
[EVNIN LUKE](#)

(Last) (First) (Middle)
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(Street)
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1. Name and Address of Reporting Person*
[GADICKE ANSBERT](#)

(Last) (First) (Middle)
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1. Name and Address of Reporting Person*
[STEINMETZ MICHAEL](#)

(Last)	(First)	(Middle)
C/O MPM ASSET MANAGEMENT		
200 CLARENDON STREET, 54TH FLOOR		

(Street)		
BOSTON	MA	02116

(City)	(State)	(Zip)

1. Name and Address of Reporting Person*

WHEELER KURT

(Last)	(First)	(Middle)
C/O MPM ASSET MANAGEMENT		
200 CLARENDON STREET, 54TH FLOOR		

(Street)		
BOSTON	MA	02116

(City)	(State)	(Zip)

Explanation of Responses:

- These securities are preferred stock of the Issuer and do not have an expiration date. These securities will automatically convert into shares of common stock upon the closing of the Issuer's initial public offering.
- Each share of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock and Series D Convertible Preferred Stock will convert automatically into shares of Common Stock on a 0.25 for 1 basis immediately prior to the closing of the Issuer's initial public offering.
- The shares, on a post-conversion basis, are held as follows: 701,037 by MPM BioVentures II-QP, L.P. ("BV II QP"), 77,259 by MPM BioVentures II, L.P. ("BV II"), 11,926 by MPM Asset Management Investors 2002 BVII LLC ("AM 2002") and 246,814 by MPM BioVentures GmbH & Co. Parallel-Beteiligungs KG ("BV KG"). MPM Asset Management II, L.P. ("AM II GP") and MPM Asset Management II LLC ("AM II LLC") are the direct and indirect general partners of BV II QP, BV II and BV KG. Luke Evnin, Ansbert Gadicke, Nicholas Galakatos, Michael Steinmetz and Kurt Wheeler are the investment managers of AM II LLC and AM 2002. Each member of the group disclaims beneficial ownership of the securities except to the extent of his or its respective pecuniary interest therein.
- The shares, on a post-conversion basis, are held as follows: 661,027 by BV II QP, 72,850 by BV II, 11,245 by AM 2002 and 232,728 by BV KG. Each member of the group disclaims beneficial ownership of the securities except to the extent of his or its respective pecuniary interest therein.
- The shares, on a post-conversion basis, are held as follows: 131,196 by BV II QP, 14,458 by BV II, 2,231 by AM 2002 and 46,190 by BV KG. Each member of the group disclaims beneficial ownership of the securities except to the extent of his or its respective pecuniary interest therein.

By Luke Evnin, manager of MPM Asset Management II LLC, the general partner of MPM Asset Management II, L.P., the general partner of MPM BioVentures II-QP, L.P. /s/ Luke Evnin 03/12/2010

By Luke Evnin, manager of MPM Asset Management II LLC, the general partner of MPM Asset Management II, L.P., the general partner of MPM BioVentures II, L.P. /s/ Luke Evnin 03/12/2010

By Luke Evnin, manager of MPM Asset Management II LLC /s/ Luke Evnin 03/12/2010

By Luke Evnin, manager of MPM Asset Management Investors 2002 BVII LLC /s/ Luke Evnin 03/12/2010

By Luke Evnin, manager of MPM Asset Management II LLC, the general partner of MPM Asset Management II, L.P., the special limited partner of MPM BioVentures GmbH & Co. Parallel-Beteiligungs KG /s/ Luke Evnin 03/12/2010

By Luke Evnin, manager of MPM Asset Management II LLC, the general partner of MPM Asset Management II, L.P. /s/ Luke Evnin 03/12/2010

/s/ Luke Evnin 03/12/2010

/s/ Ansbert Gadicke 03/12/2010

/s/ Michael Steinmetz 03/12/2010

/s/ Kurt Wheeler 03/12/2010

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

**** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).**

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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