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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM S-8**  
**REGISTRATION STATEMENT**  
*UNDER*  
**THE SECURITIES ACT OF 1933**

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**AVEO Pharmaceuticals, Inc.**

(Exact Name of Registrant as Specified in Its Charter)

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**Delaware**  
(State or Other Jurisdiction of Incorporation or Organization)

**04-3581650**  
(I.R.S. Employer Identification No.)

**30 Winter Street**  
**Boston, Massachusetts**  
(Address of Principal Executive Offices)

**02108**  
(Zip Code)

**2019 Equity Incentive Plan, as amended**  
(Full Title of the Plan)

**Erick Lucera**  
**Chief Financial Officer**  
**AVEO Pharmaceuticals, Inc.**  
**30 Winter Street**  
**Boston, Massachusetts 02108**  
(Name and Address of Agent For Service)

**(857) 400-0101**  
(Telephone Number, Including Area Code, of Agent For Service)

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

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If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

**CALCULATION OF REGISTRATION FEE**

<b>Title of Securities to be Registered</b>	<b>Amount to be Registered(1)</b>	<b>Proposed Maximum Offering Price Per Share</b>	<b>Proposed Maximum Aggregate Offering Price</b>	<b>Amount of Registration Fee</b>
Common Stock, \$0.001 par value per share	3,368,901 shares(2)	\$5.89(3)	\$19,842,826.89(3)	\$2,164.86

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Consists of (i) 2,300,000 shares issuable under the 2019 Equity Incentive Plan, as amended, and (ii) an additional number of shares (up to 1,068,901 shares) as is equal to the sum of (A) the number of shares of common stock that remained available for issuance under the Company's Second Amended and Restated 2010 Stock Incentive Plan (the "2010 Plan") as of the date the Company's stockholders approved the 2019 Equity Incentive Plan at the Company's 2019 annual meeting of stockholders and (B) the number of shares of common stock subject to awards outstanding under the 2010 Plan, which awards expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by the Company pursuant to a contractual repurchase right.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended, and based upon the average of the high and low prices of the Registrant's Common Stock as reported on the Nasdaq Capital Market on November 18, 2020.

**PART I**  
**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

**Item 1. Plan Information.**

The information required by Item 1 is included in documents sent or given to participants in the plan covered by this registration statement pursuant to Rule 428(b)(1) of the Securities Act of 1933, as amended (the "Securities Act").

**Item 2. Registrant Information and Employee Plan Annual Information.**

The written statement required by Item 2 is included in documents sent or given to participants in the plan covered by this registration statement pursuant to Rule 428(b)(1) of the Securities Act.

**PART II**  
**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation of Documents by Reference.**

The registrant is subject to the informational and reporting requirements of Sections 13(a), 14, and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). The following documents, which are on file with the Commission, are incorporated in this registration statement by reference:

- (a) The registrant's latest [annual report](#) filed pursuant to Section 13(a) or 15(d) of the Exchange Act or the latest prospectus filed pursuant to Rule 424(b) under the Securities Act that contains audited financial statements for the registrant's latest fiscal year for which such statements have been filed.
- (b) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the document referred to in (a) above.
- (c) The description of the securities contained in the registrant's registration statement on [Form 8-A](#) filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of the filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

**Item 4. Description of Securities.**

Not applicable.

**Item 5. Interests of Named Experts and Counsel.**

Wilmer Cutler Pickering Hale and Dorr LLP (“WilmerHale”) has opined as to the legality of the securities being offered by this registration statement.

**Item 6. Indemnification of Directors and Officers.**

Section 145 of the General Corporation Law of the State of Delaware (the “DGCL”) provides, generally, that a corporation shall have the power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding (except actions by or in the right of the corporation) by reason of the fact that such person is or was a director, officer, employee or agent of the corporation against all expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. A corporation may similarly indemnify such person for expenses actually and reasonably incurred by such person in connection with the defense or settlement of any action or suit by or in the right of the corporation, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in the case of claims, issues and matters as to which such person shall have been adjudged liable to the corporation, provided that a court shall have determined, upon application, that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper.

Section 102(b)(7) of the DGCL provides, generally, that a corporation’s certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director to the corporation or its shareholders for monetary damages for breach of fiduciary duty as a director, provided that such provision may not eliminate or limit the liability of a director (i) for any breach of the director’s duty of loyalty to the corporation or its shareholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit. No such provision may eliminate or limit the liability of a director for any act or omission occurring prior to the date when such provision became effective.

The registrant’s certificate of incorporation provides that the registrant will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative or investigative (other than an action by or in the right of the registrant) by reason of the fact that he or she is or was, or has agreed to become, the registrant’s director or officer, or is or was serving, or has agreed to serve, at the registrant’s request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an “Indemnitee”), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the Indemnitee or on his or her behalf in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the registrant’s best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the registrant’s best interests, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

The registrant's certificate of incorporation also provides that the registrant will indemnify any Indemnitee who was or is a party or threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the registrant to procure a judgment in the registrant's favor by reason of the fact that the Indemnitee is or was, or has agreed to become, the registrant's director or officer, or is or was serving, or has agreed to serve, at the registrant's request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the registrant's best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the registrant, unless and only to the extent that a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification for such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by the registrant against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If the registrant does not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

The registrant maintains a general liability insurance policy which covers certain liabilities of the registrant's directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Certain of the registrant's non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities in their capacity as members of the registrant's board of directors.

**Item 7. Exemption from Registration Claimed.**

Not applicable.

**Item 8. Exhibits.**

The following exhibits are incorporated herein by reference:

<u>Exhibit No.</u>	<u>Description</u>
4.1	<a href="#"><u>Restated Certificate of Incorporation of the Registrant, as amended (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed on August 8, 2019 (File No. 001-34655)).</u></a>
4.2	<a href="#"><u>Certificate of Amendment of Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on February 19, 2020 (File No. 001-34655)).</u></a>

- 4.3 [Second Amended and Restated By-Laws of the Registrant \(incorporated by reference to Exhibit 3.5 to the Registrant's Registration Statement on Form S-1, as amended, filed on February 8, 2010 \(File No. 333-163778\)\)](#).
- 5.1\* [Opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel to the Registrant](#)
- 23.1\* [Consent of Wilmer Cutler Pickering Hale and Dorr LLP \(included in Exhibit 5.1\)](#).
- 23.2\* [Consent of Ernst & Young LLP, independent registered public accounting firm for the Registrant](#)
- 24.1\* [Power of Attorney \(included on the signature pages to this Registration Statement\)](#).
- 99.1 [2019 Equity Incentive Plan \(incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement on Form DEF-14A filed on April 30, 2019 \(File No. 001-34655\)\)](#).
- 99.2 [Amendment No. 1 to 2019 Equity Incentive Plan \(incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement on Form DEF-14A filed on April 28, 2020 \(File No. 001-34655\)\)](#).

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\* Filed herewith

**Item 9. Undertakings.**

1. *Item 512(a) of Regulation S-K*. The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that paragraphs (1)(i) and (ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

2. Item 512(b) of Regulation S-K. The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

3. Item 512(h) of Regulation S-K. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boston, Commonwealth of Massachusetts, on this 19<sup>th</sup> day of November, 2020.

### AVEO PHARMACEUTICALS, INC.

By: /s/ Michael Bailey

Michael Bailey  
President & Chief Executive Officer

## POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of AVEO Pharmaceuticals, Inc., hereby severally constitute and appoint Michael Bailey and Erick Lucera, and each of them singly, our true and lawful attorneys with full power to them, and each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable AVEO Pharmaceuticals, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Michael Bailey</u> Michael Bailey	President, Chief Executive Officer and Director (Principal executive officer)	November 19, 2020
<u>/s/ Erick Lucera</u> Erick Lucera	Chief Financial Officer (Principal financial and accounting officer)	November 19, 2020
<u>/s/ Kenneth M. Bate</u> Kenneth M. Bate	Director	November 19, 2020
<u>/s/ Anthony B. Evnin</u> Anthony B. Evnin	Director	November 19, 2020
<u>/s/ Robert C. Young</u> Robert C. Young	Director	November 19, 2020
<u>/s/ Gregory T. Mayes</u> Gregory T. Mayes	Director	November 19, 2020
<u>/s/ Scarlett Spring</u> Scarlett Spring	Director	November 19, 2020

November 19, 2020

AVEO Pharmaceuticals, Inc.  
30 Winter Street  
Boston, Massachusetts 02108

+1 617 526 6000 (t)  
+1 617 526 5000 (f)

wilmerhale.com

Re: 2019 Equity Incentive Plan, as amended

Ladies and Gentlemen:

We have assisted in the preparation of a Registration Statement on Form S-8 (the "Registration Statement") to be filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), relating to an aggregate of 13,015,348 shares of common stock, \$0.001 par value per share (the "Shares"), of AVEO Pharmaceuticals, Inc., a Delaware corporation (the "Company"), issuable under the Company's 2019 Equity Incentive Plan, as amended (the "Plan").

We have examined the Certificate of Incorporation and By-Laws of the Company, each as amended and restated to date, and originals, or copies certified to our satisfaction, of all pertinent records of the meetings of the directors and stockholders of the Company, the Registration Statement and such other documents relating to the Company as we have deemed material for the purposes of this opinion.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified, photostatic or other copies, the authenticity of the originals of any such documents and the legal competence of all signatories to such documents.

We assume that the appropriate action will be taken, prior to the offer and sale of the Shares in accordance with the Plan, to register and qualify the Shares for sale under all applicable state securities or "blue sky" laws.

We express no opinion herein as to the laws of any state or jurisdiction other than the state laws of The Commonwealth of Massachusetts and the General Corporation Law of the State of Delaware.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Palo Alto San Francisco Washington

It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Plan, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion with the Commission in connection with the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

WILMER CUTLER PICKERING  
HALE AND DORR LLP

By: /s/ Cynthia T. Mazareas  
Cynthia T. Mazareas, a Partner

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2019 Equity Incentive Plan, as amended of AVEO Pharmaceuticals, Inc. of our reports dated March 16, 2020, with respect to the consolidated financial statements of AVEO Pharmaceuticals, Inc. and the effectiveness of internal control over financial reporting of AVEO Pharmaceuticals, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2019, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts

November 19, 2020