

As filed with the Securities and Exchange Commission on August 4, 2022

Registration No. 333-\_\_\_\_\_

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

**FORM S-8**

**REGISTRATION STATEMENT UNDER  
THE SECURITIES ACT OF 1933**

**AVEO Pharmaceuticals, Inc.**

(Exact Name of Registrant as Specified in Its Charter)

<b>Delaware</b>	<b>04-3581650</b>
<b>(State or Other Jurisdiction of Incorporation or Organization)</b>	<b>(I.R.S. Employer Identification No.)</b>
<b>30 Winter Street Boston, Massachusetts</b>	<b>02108</b>
<b>(Address of Principal Executive Offices)</b>	<b>(Zip Code)</b>

**AVEO Pharmaceuticals, Inc. 2019 Equity Incentive Plan, as amended  
AVEO Pharmaceuticals, Inc. Amended and Restated 2010 Employee Stock Purchase Plan, 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)**

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 Exchange Act.

## EXPLANATORY NOTE

This registration statement (the “Registration Statement”) on Form S-8 is being filed by AVEO Pharmaceuticals, Inc. (the “Registrant”) for the purpose of registering (i) 4,000,000 additional shares of its common stock, \$0.001 par value per share (“Common Stock”), issuable under the AVEO Pharmaceuticals, Inc. 2019 Equity Incentive Plan, as amended (the “2019 Equity Incentive Plan”) and (ii) 300,000 additional shares of its Common Stock under the AVEO Pharmaceuticals, Inc. Amended and Restated 2010 Employee Stock Purchase Plan, as amended (the “2010 Employee Stock Purchase Plan”). The Registrant previously filed with the Securities and Exchange Commission (the “Commission”) (i) a registration statement on Form S-8 (File No. 333-256993) on June 10, 2021 with respect to the 2019 Equity Incentive Plan and the 2010 Employee Stock Purchase Plan (the “2021 Registration Statement”), (ii) a registration statement on Form S-8 (File No. 333-250276) on November 20, 2020 with respect to the 2019 Equity Incentive Plan (the “2019 Equity Incentive Plan Prior Registration Statement”) and (ii) registration statements on Form S-8 (File Nos. 333-165530, 333-18956, 333-221838 ) on March 17, 2010, June 25, 2013 and November 30, 2017 , respectively, with respect to the 2010 Employee Stock Purchase Plan (the “2010 Employee Stock Purchase Plan Prior Registration Statements”), and together with the 2021 Registration Statement and the 2019 Equity Incentive Plan Prior Registration Statement, the “Prior Registration Statements”). This Registration Statement relates to the securities of the same class as that to which the Prior Registration Statements relate and is submitted in accordance with General Instruction E to Form S-8 regarding registration of additional securities. In accordance with such instruction, except as otherwise set forth below, the contents of the Prior Registration Statements relating to the Plans are incorporated herein by reference.

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

**Item 8. Exhibits.**

The following exhibits are incorporated herein by reference:

<u>Number</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 Annual Report on Form 10-K filed on March 14, 2022 (File No. 001-34655)).</u></a>
4.2	<a href="#"><u>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)).</u></a>
5.1*	<a href="#"><u>Opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel to the Registrant</u></a>
23.1*	<a href="#"><u>Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)</u></a>
23.2*	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered public accounting firm for the Registrant</u></a>
24.1*	<a href="#"><u>Power of attorney (included on the signature pages of this Registration Statement)</u></a>
99.1	<a href="#"><u>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)).</u></a>
99.2	<a href="#"><u>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)).</u></a>
99.3	<a href="#"><u>Amendment No. 2 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, 2021 (File No. 001-34655)).</u></a>
99.4	<a href="#"><u>Amendment No. 3 to 2019 Equity Incentive Plan (incorporated by reference to Appendix B to the Registrant's Definitive Proxy Statement on Form DEF-14A filed on April 26, 2022 (File No. 001-34655)).</u></a>
99.5	<a href="#"><u>Amended and Restated 2010 Employee Stock Purchase Plan, as amended (incorporated by reference to Appendix C to the Registrant's Definitive Proxy Statement on Form DEF-14A filed on April 26, 2022 (File No. 001-34655)).</u></a>
107.1*	<a href="#"><u>Filing Fee Table</u></a>

---

\*

Filed herewith

## 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 4th day of August, 2022.

### 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)	August 4, 2022
<u>/s/ Erick Lucera</u> Erick Lucera	Chief Financial Officer (Principal financial and accounting officer)	August 4, 2022
<u>/s/ Kenneth Bate</u> Kenneth Bate	Director	August 4, 2022
<u>/s/ Kevin Cullen</u> Kevin Cullen	Director	August 4, 2022
<u>/s/ Corinne Epperly</u> Corinne Epperly	Director	August 4, 2022
<u>/s/ Anthony Evnin</u> Anthony Evnin	Director	August 4, 2022
<u>/s/ Gregory Mayes</u> Gregory Mayes	Director	August 4, 2022
<u>/s/ Scarlett Spring</u> Scarlett Spring	Director	August 4, 2022

## Calculation of Filing Fee Table

**FORM S-8**

(Form Type)

**AVEO Pharmaceuticals, Inc.**

(Exact Name of Registrant as Specified in Charter)

**Table 1—Newly Registered Securities**

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered <sup>(1)</sup>	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common Stock, \$0.001 par value per share	Other	4,300,000 <sup>(2)</sup>	\$7.08 <sup>(3)</sup>	\$30,444,000.00 <sup>(3)</sup>	0.0000927	\$2,822.16
<b>Total Offering Amounts</b>					\$30,444,000.00		\$2,822.16
<b>Total Fee Offsets</b>							—
<b>Net Fee Due</b>							\$2,822.16

- (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) 4,000,000 shares issuable under the AVEO Pharmaceuticals, Inc. 2019 Equity Incentive Plan, as amended and (ii) 300,000 shares issuable under the AVEO Pharmaceuticals, Inc. Amended and Restated 2010 Employee Stock Purchase Plan.
- (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 August 1, 2022.

WILMERHALE

August 4, 2022

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

Re: AVEO Pharmaceuticals, Inc. 2019 Equity Incentive Plan, as amended  
AVEO Pharmaceuticals, Inc. Amended and Restated 2010 Employee Stock Purchase Plan

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 4,300,000 shares of common stock, \$0.001 par value per share (the "Shares"), of AVEO Pharmaceuticals, Inc., a Delaware corporation (the "Company"), issuable under the AVEO Pharmaceuticals, Inc. 2019 Equity Incentive Plan, as amended, and the AVEO Pharmaceuticals, Inc. Amended and Restated 2010 Employee Stock Purchase Plan, as amended (collectively, the "Plans").

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 board of directors and stockholders of the Company, the Registration Statement, the Plans 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 Plans, 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 General Corporation Law of the State of Delaware.

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 Plans, 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,

/s/ Wilmer Cutler Pickering Hale and Dorr LLP  
WILMER CUTLER PICKERING HALE AND DORR LLP

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Aveo Pharmaceuticals, Inc. 2019 Equity Incentive Plan, as amended, and the Aveo Pharmaceuticals, Inc. Amended and Restated 2010 Employee Stock Purchase Plan of Aveo Pharmaceuticals, Inc. of our reports dated March 14, 2022, 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, 2021, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts  
August 4, 2022