

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

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

**APREA THERAPEUTICS, INC.**

(Exact name of Registrant as Specified in Its Charter)

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

**84-2246769**  
(I.R.S. Employer  
Identification Number)

**535 Boylston Street**  
**Boston, MA**  
(Address of Principal Executive Offices)

**02116**  
(Zip Code)

**Aprea Therapeutics, Inc. 2019 Equity Incentive Plan**  
(Full Title of the Plan)

**Christian S. Schade**  
**Chairman and Chief Executive Officer**  
**Aprea Therapeutics, Inc.**  
**535 Boylston Street**  
**Boston, MA 02116**  
**(617) 463-9385**

(Name, Address and 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, 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	<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 checked="" 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 Securities Act.

**Calculation of Registration Fee**

Title of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.001 per share	840,910 shares (1)	\$20.27 (2)	\$17,045,246 (2)	\$1,860.00 (2)

(1) The number of shares of common stock, par value \$0.001 per share (the “Common Stock”), of Aprea Therapeutics, Inc., a Delaware corporation (the “Registrant”), available for issuance under the Aprea Therapeutics, Inc. 2019 Equity Incentive Plan (the “2019 Plan”) is subject to an automatic annual increase on the first day of each fiscal year, beginning with the fiscal year ending December 31, 2020, and continuing until (and including) the fiscal year ending December 31, 2029, with such annual increase equal to the lesser of (i) 5,000,000 shares of Common Stock, (ii) 4% of the number of shares of Common Stock issued and outstanding on December 31 of the immediately preceding calendar year, and (iii) an amount determined by the Board of Directors of the Registrant (the “2019 Plan Evergreen Provision”). Accordingly, the number of shares of Common Stock available for issuance under the 2019 Plan was automatically increased by 840,910 shares effective January 1, 2020, which is equal to 4% of the total number of shares of Common Stock outstanding as of December 31, 2019. This Registration Statement registers the 840,910 additional shares of Common Stock available for issuance under the 2019 Plan as of January 1, 2020 as a result of the 2019 Plan Evergreen Provision. Pursuant to Rule 416 of the Securities Act of 1933, as amended, this Registration Statement also covers such additional and indeterminate number of securities as may become issuable pursuant to the provisions of the plans relating to adjustments for changes resulting from a stock dividend, stock split or similar change.

(2) Calculated solely for purposes of this offering under Rule 457(h) of the Securities Act of 1933, as amended (the “1933 Act”), on the basis of the average of the high and low prices per share of the Registrant’s Common Stock on November 9, 2020, as reported by The Nasdaq Stock Market.

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## EXPLANATORY NOTE

This Registration Statement is being filed by Aprea Therapeutics, Inc. (the "Registrant") for the purpose of registering an additional 840,910 shares of common stock, par value \$0.001 per share (the "Common Stock"), of the Registrant available for issuance under the Aprea Therapeutics, Inc. 2019 Equity Incentive Plan (the "2019 Plan"). The Registrant previously filed with the Securities and Exchange Commission (the "Commission") on November 18, 2019 a registration statement on [Form S-8 \(SEC File No. 333-234765\)](#) (the "Prior Registration Statement") registering shares of Common Stock issuable under the 2019 Plan. This Registration Statement relates to securities of the same class as those to which the Prior Registration Statement relates and is submitted in accordance with General Instruction E of Form S-8 regarding Registration of Additional Securities. Pursuant to General Instruction E of Form S-8, the contents of the Prior Registration Statement are incorporated herein by reference and made part of this Registration Statement, except for Items 3 and 8, which are being updated by this Registration Statement.

### PART I

#### INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The information specified in this Part I is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the rules and regulations of the Commission and the instructions to Form S-8, such documents are not being filed with the Commission either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

### PART II

#### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

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

The Registrant hereby incorporates by reference in this Registration Statement the following documents and information previously filed with the Commission:

- (1) [The Registrant's annual report on Form 10-K for the year ended December 31, 2019, filed with the Commission of March 27, 2020;](#)
- (2) [The Registrant's quarterly report on Form 10-Q for the quarter ended March 31, 2020, filed with the Commission on May 15, 2020;](#)
- (3) [The Registrant's quarterly report on Form 10-Q for the quarter ended June 30, 2020, filed with the Commission on August 11, 2020;](#)
- (4) [The Registrant's quarterly report on Form 10-Q for the quarter ended September 30, 2020, filed with the Commission on November 6, 2020;](#)
- (5) The Registrant's current reports on Form 8-K, filed with the Commission on [April 3, 2020](#); [June 29, 2020](#); [September 18, 2020](#), and [September 29, 2020](#); and
- (6) [The description of the Registrant's Common Stock contained in the Registrant's Registration Statement on Form 8-A filed with the Commission on September 30, 2019, pursuant to Section 12\(b\) of the Securities Exchange Act of 1934, as amended \(the "Exchange Act"\), including any amendment or report for the purpose of updating such description;](#)

All documents subsequently filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement 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 into this Registration Statement and to be a part hereof from the respective dates of filing of such documents (such documents, and the documents enumerated above, being hereinafter referred to as "Incorporated Documents").

Any statement contained in an Incorporated Document shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed Incorporated Document modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

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**Item 8. Exhibits.**

<b>Exhibit Number</b>	<b>Exhibit Description</b>	<b>Filed Herewith</b>	<b>Incorporated by Reference</b>		
			<b>Form</b>	<b>Exhibit</b>	<b>Filing Date</b>
<a href="#">4.1</a>	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant</a>		<a href="#">8-K</a>	<a href="#">3.1</a>	<a href="#">October 7, 2019</a>
<a href="#">4.2</a>	<a href="#">Amended and Restated Bylaws of the Registrant</a>		<a href="#">10-Q</a>	<a href="#">3.1</a>	<a href="#">November 6, 2020</a>
<a href="#">4.3</a>	<a href="#">Aprea Therapeutics, Inc. 2019 Equity Incentive Plan</a>		<a href="#">S-1/A</a>	<a href="#">10.1</a>	<a href="#">September 27, 2019</a>
<a href="#">5.1</a>	<a href="#">Opinion of Sidley Austin LLP, as to the legality of the securities being registered</a>	<a href="#">X</a>			
<a href="#">23.1</a>	<a href="#">Consent of Sidley Austin LLP (included in the opinion filed as Exhibit 5.1)</a>	<a href="#">X</a>			
<a href="#">23.2</a>	<a href="#">Consent of Ernst &amp; Young LLP</a>	<a href="#">X</a>			
<a href="#">23.3</a>	<a href="#">Consent of Ernst &amp; Young AB</a>	<a href="#">X</a>			
<a href="#">24.1</a>	<a href="#">Power of Attorney (included in the Signature Page to this Registration Statement)</a>	<a href="#">X</a>			

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 the 12th day of November, 2020.

APREA THERAPEUTICS, INC.

By     /s/ Christian S. Schade      
Name Christian S. Schade  
Title Chairman and Chief Executive Officer

## POWER OF ATTORNEY AND SIGNATURES

Each of the undersigned officers and directors of Aprea Therapeutics, Inc. does hereby severally constitute and appoint Christian S. Schade and Scott M. Coiante, and each of them acting alone, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for him or her and in his or her name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission and any applicable securities exchange or securities self-regulatory body, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, 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/ Christian S. Schade</u> Christian S. Schade	Chairman and Chief Executive Officer and Director (Principal Executive Officer)	November 12, 2020
<u>/s/ Scott M. Coiante</u> Scott M. Coiante	Chief Financial Officer (Principal Financial and Accounting Officer)	November 12, 2020
<u>/s/ Johan Christenson</u> Johan Christenson, M.D., Ph.D	Director	November 12, 2020
<u>/s/ John B. Henneman</u> John B. Henneman III	Director	November 12, 2020
<u>/s/ Michael A. Kelly</u> Michael A. Kelly	Director	November 12, 2020
<u>/s/ Fouad Namouni</u> Fouad Namouni, M.D.	Director	November 12, 2020
<u>/s/ Richard Peters</u> Richard Peters, M.D., Ph.D.	Director	November 12, 2020
<u>/s/ Bernd R. Seizinger</u> Bernd R. Seizinger, M.D, Ph.D.	Director	November 12, 2020

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**SIDLEY**SIDLEY AUSTIN LLP  
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CPERRY@SIDLEY.COM

AMERICA · ASIA PACIFIC · EUROPE

November 12, 2020

Aprea Therapeutics, Inc.  
535 Boylston Street  
Boston, MA 02116Re: 840,910 Shares of Common Stock, \$0.001 par value per share

Ladies and Gentlemen:

We refer to the Registration Statement on Form S-8 (the "Registration Statement") being filed by Aprea Therapeutics, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration of an aggregate of 840,910 shares of Common Stock, \$0.001 par value per share (the "Registered Shares"), of the Company which may be issued under the Aprea Therapeutics, Inc. 2019 Equity Incentive Plan (the "Plan").

This opinion letter is being delivered in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

We have examined the Plan, the Registration Statement, the Amended and Restated Certificate of Incorporation, as currently in effect, of the Company, and the Amended and Restated By-Laws, as currently in effect, of the Company, the resolutions of the Company's Board of Directors authorizing the Plan and the issuance of the Registered Shares thereunder and the resolutions of the Company's stockholders authorizing the Plan. We have also examined originals, or copies of originals certified to our satisfaction, of such agreements, documents, certificates and statements of the Company and other corporate documents and instruments, and have examined such questions of law, as we have considered relevant and necessary as a basis for this opinion letter. We have assumed the authenticity of all documents submitted to us as originals, the genuineness of all signatures, the legal capacity of all persons and the conformity with the original documents of any copies thereof submitted to us for examination. As to facts relevant to the opinions expressed herein, we have relied without independent investigation or verification upon, and assumed the accuracy and completeness of, certificates, letters and oral and written statements and representations of public officials and officers and other representatives of the Company.

Based on the foregoing, we are of the opinion that each Registered Share that is newly issued pursuant to the Plan will be validly issued, fully paid and non-assessable when: (i) the Registration Statement, as finally amended, shall have become effective under the Securities Act; (ii) such Registered Share shall have been duly issued and delivered in accordance with the Plan; and (iii) certificates representing such Registered Share shall have been duly executed, countersigned and registered and duly delivered to the person entitled thereto against payment of the agreed consideration therefor (in an amount not less than the par value thereof) or, if any Registered Share is to be issued in uncertificated form, the Company's books shall reflect the issuance of such Registered Share to the person entitled thereto against payment of the agreed consideration therefor (in an amount not less than the par value thereof), all in accordance with the Plan.

This opinion letter is limited to the General Corporation Law of the State of Delaware. We express no opinion as to the laws, rules or regulations of any other jurisdiction, including, without limitation, the federal laws of the United States of America or any state or non-U.S. securities or blue sky laws.

We hereby consent to the filing of this opinion letter as an Exhibit to the Registration Statement and to all references to our Firm included in or made a part of the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/ Sidley Austin LLP

Sidley Austin LLP is a limited liability partnership practicing in affiliation with other Sidley Austin partnerships.

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Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Aprea Therapeutics, Inc. 2019 Equity Incentive Plan of our report dated March 27, 2020, with respect to the consolidated financial statements of Aprea Therapeutics, 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

Iselin, New Jersey  
November 11, 2020

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## Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-8 pertaining to the 2019 Equity Incentive Plan of Aprea Therapeutics, Inc. of our report dated August 20, 2019 (except for the retroactive effect of the 1-for-1.6045 stock split of the Company's preferred and common stock as described in Note 2, as to which the date is September 27, 2019), with respect to the consolidated financial statements of Aprea Therapeutics AB as of December 31, 2018 and for each of the two years in the period ended December 31, 2018, 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 AB

Stockholm, Sweden

November 11, 2020

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