

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

AMENDMENT NO. 1

TO

FORM S-3

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 02116
(617) 463-9385**

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

**Christian S. Schade
Chairman and Chief Executive Officer
Aprea Therapeutics, Inc.**

**535 Boylston Street
Boston, MA 02116
(617) 463-9385**

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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New York, NY 10019
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**Approximate date of commencement of proposed sale to the public:
From time to time after this registration statement becomes effective.**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

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 Each Class of Securities to be Registered	Amount to be Registered⁽¹⁾	Proposed Maximum Offering Price Per Unit⁽²⁾	Proposed Maximum Aggregate Offering Price⁽²⁾	Amount of Registration Fee
Primary Offering				
Common Stock, \$0.001 par value per share				
Preferred Stock, \$0.001 par value per share				
Warrants				
Debt Securities				
Rights to purchase common stock, preferred stock, debt securities or units ⁽⁶⁾				
Units ⁽⁶⁾				
Total Primary Offering			350,000,000	38,185 ⁽³⁾
Secondary Offering by Selling Securityholders				
Common Stock, \$0.001 par value per share	500,000	20.63 ⁽⁴⁾	10,315,000 ⁽⁴⁾	1,125.37 ⁽⁴⁾
TOTAL			\$360,315,000	\$39,310.37⁽⁵⁾

(1) Includes an indeterminate aggregate principal amount and number of securities of each identified class of securities up to a proposed aggregate offering price of \$350,000,000, which may be offered by the registrant from time to time in unspecified numbers and at indeterminate prices, and as may be issued upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable anti-dilution provisions. In addition, up to 500,000 shares of the registrant's common stock may be sold pursuant to this registration statement by the selling securityholders described herein. The securities registered also include such indeterminate number of shares of common stock, preferred stock and amount of debt securities as may be issued upon conversion of or exchange for debt securities that provide for conversion or exchange, upon exercise of warrants pursuant to the antidilution provisions of such securities. In addition, pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(2) The proposed maximum aggregate offering price per class of security, other than with respect to the secondary offering, will be determined from time to time, in connection with the issuance of the securities registered hereunder and is not specified as to each class of the security pursuant to General Instruction II.D. of Form S-3 under the Securities Act.

(3) Calculated pursuant to Rule 457(o) under the Securities Act.

(4) Pursuant to Rule 457(c), the proposed maximum aggregate offering price and registration fee for the secondary offering are computed based on the average of the high and low prices reported for the registrant's common stock traded on the Nasdaq Global Select Market on November 19, 2020.

(5) \$38,185 of the registration fee was previously paid.

(6) Rights will represent rights to purchase shares of common stock, shares of preferred stock, debt securities or units registered hereby. Because the rights will provide a right only to purchase such securities offered hereunder, no additional registration fee is required. Each unit will represent an interest in two or more securities registered pursuant to this registration statement, which may or may not be separable. Because the units will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.

EXPLANATORY NOTE

This registration statement contains two prospectuses:

- a base prospectus which covers: (a) the offering, issuance and sale by the Registrant of up to a maximum aggregate offering price of \$350,000,000 of the Registrant's common stock, preferred stock, warrants, debt securities, rights to purchase common stock, preferred stock, debt securities and/or units, and units; and (b) the offering and sale of up to 500,000 shares of common stock by selling securityholders; and
- a sales agreement prospectus covering the offering, issuance and sale by the Registrant of up to a maximum aggregate offering price of \$50,000,000 of shares of the Registrant's common stock that may be offered, issued and sold from time to time under a sales agreement, dated November 12, 2020, with SVB Leerink LLC.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus. The sales agreement prospectus immediately follows the base prospectus. The common stock that may be offered, issued and sold by the Registrant under the sales agreement prospectus is included in the \$350,000,000 of securities that may be offered, issued and sold by the Registrant under the base prospectus. Upon termination of the sales agreement with SVB Leerink LLC, any portion of the \$50,000,000 included in the sales agreement prospectus that is not sold pursuant to such sales agreement will be available for sale in other offerings pursuant to the base prospectus and a corresponding prospectus supplement.

The information in this prospectus is not complete and may be changed. We may not sell these securities or accept an offer to buy these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting offers to buy these securities in any state or jurisdiction where such offer or sale is not permitted.

Subject to Completion, Dated November 24, 2020

PROSPECTUS



APREA THERAPEUTICS, INC.

Common Stock

Preferred Stock

Warrants

Debt Securities

Rights to Purchase Common Stock, Preferred Stock,

Debt Securities or Units

Units

We may offer and sell from time to time our shares of common stock, shares of preferred stock, debt securities, warrants, rights to purchase common stock, preferred stock, debt securities or units, as well as units that include any of these securities. We may sell any combination of these securities in one or more offerings with an aggregate offering price of up to \$350,000,000. In addition, selling securityholders may from time to time sell up to 500,000 shares of our common stock. We will not receive any proceeds from the sale, if any, of common stock by selling securityholders.

This prospectus provides a general description of the securities we or any selling securityholder may offer. Each time we and/or any securityholder offers securities pursuant to this prospectus, we will provide a prospectus supplement containing specific terms of the particular offering together with this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in any securities. The prospectus supplement also may add, update or change information contained in this prospectus.

This prospectus may not be used to offer and sell securities unless accompanied by the applicable prospectus supplement.

Our common stock is listed on the Nasdaq Global Select Market under the symbol "APRE." On November 23, 2020, the last reported sale price of our common stock was \$24.48.

We and/or any selling securityholder may sell the securities directly or to or through underwriters or dealers, and also to other purchasers or through agents. The names of any underwriters or agents that are included in a sale of securities to you, and any applicable commissions or discounts, will be stated in an accompanying prospectus supplement. In addition, the underwriters, if any, may over-allot a portion of the securities.

We are an "emerging growth company" and a "smaller reporting company" under federal securities laws and as such, have elected to comply with reduced public company reporting requirements for this prospectus and the documents incorporated by reference herein and may elect to comply with reduced public company reporting requirements in future filings. See "Summary—Implications of Being an Emerging Growth Company and Smaller Reporting Company."

Investing in our securities involves significant risks. We strongly recommend that you read carefully the risks we describe in this prospectus and in any accompanying prospectus supplement, as well as the risk factors that are incorporated by reference into this prospectus from our filings made with the Securities and Exchange Commission. See "Risk Factors" on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2020

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, (the “SEC”), using a “shelf” registration process. Under this shelf registration process, we may offer and sell from time to time any combination of the securities described in this prospectus in one or more offerings in amounts, at prices and on terms that we determine at the time of the offering, with an aggregate offering price of up to \$350,000,000. In addition, selling securityholders may from time to time sell up to 500,000 shares of common stock. This prospectus provides you with a general description of the securities we and the selling stockholders may offer.

Each time we and/or any securityholder offer securities, we will provide a prospectus supplement that describes the terms of the relevant offering. The prospectus supplement also may add, update or change information contained in this prospectus. Before making an investment decision, you should read carefully both this prospectus and any prospectus supplement together with the documents incorporated by reference into this prospectus as described below under the heading “Information Incorporated by Reference.”

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

You should read both this prospectus and any accompanying prospectus supplement together with the additional information incorporated by reference. See “Where You Can Find More Information” and “Information Incorporated by Reference”. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus or any supplement to this prospectus is accurate at any date other than the date indicated on the cover page of these documents or the filing date of any document incorporated by reference, regardless of its time of delivery. We are not making an offer to sell the securities in any jurisdiction where the offer or sale is not permitted.

We and/or any securityholder may sell our securities to or through underwriters, dealers or agents, directly to purchasers or through a combination of any of these methods of sale, as designated from time to time. We and our agents reserve the sole right to accept or reject in whole or in part any proposed purchase of our securities. An applicable prospectus supplement, which we will provide each time we offer the securities, will set forth the names of any underwriters, dealers or agents involved in the sale of our securities, and any related fee, commission or discount arrangements. See “Plan of Distribution.”

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

The terms “Aprea,” the “Company,” “our,” “us” and “we,” as used in this prospectus, refer to Aprea Therapeutics, Inc., unless we state otherwise or the context indicates otherwise.

RISK FACTORS

Investing in our securities involves risk. You should carefully consider the specific risks discussed or incorporated by reference into the applicable prospectus supplement, together with all the other information contained in the prospectus or incorporated by reference into this prospectus and the applicable prospectus supplement. You should also consider the risks, uncertainties and assumptions discussed under the caption “Risk Factors” included in our [Annual Report on Form 10-K for the year ended December 31, 2019](#) and in our [Quarterly Reports on Form 10-Q for the periods ended March 31, June 30 and September 30, 2020](#), and in subsequent filings, which are incorporated by reference into this prospectus. These risk factors may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future or by a prospectus supplement relating to a particular offering of our securities. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described in our SEC filings or any prospectus supplement or any additional risks and uncertainties actually occur, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our securities could decline and you might lose all or part of your investment.

FORWARD-LOOKING STATEMENTS

This prospectus includes and incorporates by reference “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and releases issued by the SEC and within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. All statements other than statements of historical fact are “forward-looking statements” for purposes of this prospectus. In some cases, you can identify forward-looking statements by terminology such as “may,” “could,” “will,” “would,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “intend,” “predict,” “seek,” “contemplate,” “project,” “continue,” “potential,” “ongoing,” “goal,” or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- estimates of our expenses, capital requirements and our needs for additional financing;
- business interruptions, including delays in enrollment, patient follow-up and data collection of clinical trials, resulting from the outbreak of the novel coronavirus, COVID-19;
- the prospects of eprenetapopt and other product candidates, which are still in development;
- outcome and results of ongoing or future preclinical studies and clinical trials of eprenetapopt;
- the design of our multiple clinical trials, including the sample size, trial duration, endpoint definition, event rate assumptions and eligibility criteria;
- our expectations regarding the timing of data from our Phase 3 and additional clinical trials;
- market acceptance or commercial success of eprenetapopt and the degree of acceptance among physicians, patients, patient advocacy groups, health care payors and the medical community;
- our expectations regarding competition, potential market size, the size of the patient populations for eprenetapopt, if approved for commercial use, and market acceptance;
- our ability to maintain regulatory approval of eprenetapopt, and any related restrictions, limitations and/or warnings in the label of eprenetapopt;
- the scope of protection we are able to establish, maintain and enforce for intellectual property rights covering eprenetapopt;
- potential claims relating to our intellectual property and third-party intellectual property;
- the duration of our intellectual property estate that will provide protection for eprenetapopt;
- developments relating to our competitors and our industry;
- our sales, marketing or distribution capabilities and our ability to commercialize eprenetapopt, if we obtain regulatory approval;
- current and future agreements with third parties in connection with the manufacturing, commercialization, packaging and distribution of eprenetapopt;
- our expectations regarding the ability of our current contract manufacturing partners to produce eprenetapopt in the quantities and timeframe that we will require;
- our expectations regarding our future costs of goods;

- our ability to generate sufficient or positive preclinical, toxicology, or other *in vivo* or *in vitro* data to support the initiation of clinical trials of APR-548;
- our ability to attract, retain and motivate key personnel and increase the size of our organization;
- our ability to establish collaborations in lieu of obtaining additional financing;
- the impact of government laws and regulations;
- our financial performance; and
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act or a smaller reporting company under the Exchange Act.

These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In evaluating such forward-looking statements, you should specifically consider various factors that may cause actual results to differ materially from current expectations, including the risks outlined under the heading “Risk Factors” contained in this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein. Any forward-looking statement in this prospectus reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This prospectus and the documents incorporated by reference, may also contain estimates, projections and other information concerning our industry, our business and the markets for certain drugs, including data regarding the estimated size of those markets, their projected growth rates and the incidence of certain medical conditions. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained these industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which these data are derived.

APREA THERAPEUTICS, INC.

Company Overview

We are a clinical-stage biopharmaceutical company focused on developing and commercializing novel cancer therapeutics that reactivate the mutant p53 tumor suppressor protein. p53 is the protein expressed from the *TP53* gene, the most commonly mutated gene in cancer. We believe that mutant p53 is an attractive therapeutic target due to the high incidence of p53 mutations across a range of cancer types and its involvement in key cellular activities such as apoptosis. Cancer patients with mutant p53 face a significantly inferior prognosis even when treated with the current standard of care, and a large unmet need for these patients remains. Our lead product candidate, APR-246, or *eprenetapopt*, is a small molecule p53 reactivator that is in late-stage clinical development for hematologic malignancies, including myelodysplastic syndromes, or MDS, and acute myeloid leukemia, or AML. Eprenetapopt has received orphan drug, fast track and breakthrough therapy designations from the U.S. Food and Drug Administration, or the FDA for MDS, and orphan drug designation from the European Commission for MDS and AML and we believe eprenetapopt will be a first-in-class therapy if approved by applicable regulators.

Our second product candidate, APR-548, is a pre-clinical, next generation p53 reactivator with the potential for oral administration. APR-548 exhibits high oral bioavailability in preclinical testing and is being developed in an oral dosage form. We completed Investigational New Drug, or IND, enabling preclinical studies of APR-548 and filed an IND with the FDA. Following a request for additional information by the FDA before the initiation of human clinical trials, we received clearance from the FDA in October 2020 to initiate Phase 1 clinical trials for APR-548.

Implications of Being an Emerging Growth Company and Smaller Reporting Company

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We may take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm under Section 404 of the Sarbanes-Oxley Act of 2002 reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments. We may take advantage of these exemptions until December 31, 2024 or until we are no longer an “emerging growth company,” whichever is earlier. We will cease to be an emerging growth company prior to the end of such period if certain earlier events occur, including if we become a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or Exchange Act, our annual gross revenues exceed \$1.07 billion or we issue more than \$1.0 billion of non-convertible debt in any three-year period.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of accounting standards that have different effective dates for public and private companies until those standards would otherwise apply to private companies. We have not elected to avail ourselves of this exemption and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not “emerging growth companies.”

We are also a “smaller reporting company” as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our voting and non-voting common stock held by non-affiliates is less than \$250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than \$100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is less than \$700.0 million measured on the last business day of our second fiscal quarter.

Corporate Information

Our principal executive offices are located at 535 Boylston Street, Boston, Massachusetts 02116, and our telephone number is (617) 463-9385. Our website address is www.aprea.com. The information contained on or accessible through our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

Our filings with the SEC are posted on our website at www.aprea.com. Other than the specifically incorporated SEC filings, the information found on or accessible through our website is not part of this or any other report we file with or furnish to the SEC. The public can also obtain copies of these filings by accessing the SEC’s website at <http://www.sec.gov>.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of the securities offered hereby. Except as described in any prospectus supplement or any related free writing prospectus that we may authorize to be provided to you, we currently intend to use the net proceeds from the sale of the securities offered hereby for general corporate purposes, including working capital, operating expenses and capital expenditures. We may also use a portion of the net proceeds to acquire or invest in businesses and products that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus. We will set forth in the applicable prospectus supplement or free writing prospectus our intended use for the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement or free writing prospectus. We intend to invest the net proceeds to us from the sale of securities offered hereby that are not used as described above in short-term, investment-grade, interest-bearing instruments.

Unless otherwise set forth in the applicable prospectus supplement, we will not receive any proceeds in the event that securities are sold by a selling securityholder.

DESCRIPTION OF CAPITAL STOCK

The following description is a general summary of the terms of the shares of common stock or shares of preferred stock that we may issue. The description below and in any prospectus supplement does not include all of the terms of the shares of common stock or shares of preferred stock and should be read together with our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, copies of which have been filed previously with the SEC. For more information on how you can obtain copies of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, see “Where You Can Find More Information.”

General

Our charter authorizes to issue up to 400,000,000 shares of common stock, par value \$0.001 per share, and 40,000,000 shares of preferred stock, par value \$0.001 per share. The following summary sets forth some of the general terms of our common stock. Because this is a summary, it does not contain all of the information that may be important to you. For a more detailed description of our common stock, you should read our amended and restated certificate of incorporation and the amended and restated bylaws, each of which is an exhibit to our Annual Report on Form 10-K to which this summary is also an exhibit, and the applicable provisions of the Delaware General Corporation Law (the “DGCL”).

Common stock

As of November 23, 2020, we had outstanding 21,186,827 shares of common stock.

Voting Rights

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter, except as otherwise disclosed below.

Dividends

Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

Liquidation

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights.

Rights and Preferences

The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred stock

Our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock. You should refer to the applicable certificate of designation for complete information regarding a series of preferred stock to be issued under this prospectus and the applicable prospectus supplement.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. As of immediately prior to the completion of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Registration rights

We are party to an amended and restated registration rights agreement, dated as of September 20, 2019 (the “Registration Rights Agreement”), pursuant to which certain of our stockholders, including certain holders of five percent or more of our capital stock and their affiliates and entities affiliated with certain of our directors, have the right to demand that we file a registration statement for their shares of our common stock or request that their shares of our common stock be covered by a registration statement that we are otherwise filing, including, in each case, shares of our common stock that were issued upon conversion of convertible preferred stock. These shares are referred to as registrable securities.

Demand registration rights

The stockholders, as defined in the Registration Rights Agreement, holding not less than fifty percent of the registrable securities have the right to demand that we file, a registration statement to register all or a portion of their registrable securities, provided that the expected aggregate proceeds to be received from the sale of the registrable securities to be sold under the registration statement is equal to or exceeds \$10.0 million. We are not obligated to file a registration statement pursuant to this demand provision (i) on more than one occasion within any six-month period or (ii) if at the time of such request, four or more such demand registrations and underwritten takedowns, as defined in the Registration Rights Agreement, have previously been effected or deemed effected.

Form S-3 registration rights

In addition, if, at any time after the first anniversary of our IPO, we become eligible to file a registration statement on Form S-3 under the Securities Act, subject to specified limitations, a stockholder or a group of stockholders, as defined in the Registration Rights Agreement, may demand in writing that we register on Form S-3 all or part of the registrable securities held by them. We are not obliged to effect more than one such underwritten takedown, as defined in the Registration Rights Agreement, within any six-month period.

Piggyback registration rights

If we propose to file a registration statement to register any of our common stock under the Securities Act (other than (i) a registration statement on Form S-3 or (ii) a registration statement relating to any employee benefit plan), either for our own account or for the account of any of our stockholders that are not holders of registrable securities, the holders of our registrable securities are entitled to notice of registration and, subject to specified exceptions, we will be required to use our commercially reasonable efforts to register the registrable securities then held by them that they request that we register.

Expenses of registration

Pursuant to the Registration Rights Agreement, we are required to pay all registration expenses, including registration fees, printing expenses, fees and disbursements of our counsel and accountants and reasonable fees and disbursements of one counsel representing all stockholders, as defined in the Registration Rights Agreement, participating in the offering, other than any underwriting discounts and commissions attributable to the sale of registrable securities, as defined in the Registration Rights Agreement.

The Registration Rights Agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify stockholders, as defined in the Registration Rights Agreement, beneficially owning registrable securities covered by a registration statement in the event of material misstatements or omissions in the registration statement attributable to us, and each stockholder, as defined in the Registration Rights Agreement, is obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

Anti-Takeover effects of Delaware law and our charter and bylaws

Delaware law, our certificate of incorporation and our bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

Staggered board; removal of directors

Our certificate of incorporation and bylaws divides our board of directors into three classes with staggered three-year terms. In addition, a director may only be removed for cause and only by the affirmative vote of the holders of a majority of the votes that all of our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, will only be able to be filled by vote of a majority of our directors then in office. The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder action by written consent; special meetings

Our certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders. Our certificate of incorporation and bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our chairman of the board, our Chief Executive Officer or our board of directors.

Advance notice requirements for stockholder proposals

Our bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting are only able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Delaware business combination statute

We are subject to Section 203 of the DGCL. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Amendment of certificate of incorporation and bylaws

DGCL provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our certificate of incorporation described above under "Staggered board; removal of directors" and "Stockholder action by written consent; special meetings."

Exclusive forum selection

Our certificate of incorporation provides, unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware (or if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of our company under Delaware law, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or employees to our company or our stockholders, (3) any action asserting a claim against our company arising pursuant to any provision of the DGCL or our certificate of incorporation or bylaws, (4) any action asserting a claim against our company governed by the internal affairs doctrine or (5) any other action asserting an "internal corporate claim," as defined in Section 115 of the DGCL. These exclusive-forum provisions do not currently apply to claims under the Securities Act of 1933, as amended, or the Exchange Act. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to this provision. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers.

Listing on The Nasdaq Global Select Market

Our common stock is listed on The Nasdaq Global Select Market under the symbol "APRE."

Authorized but unissued shares

The authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing requirements of The Nasdaq Global Select Market. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Transfer agent and registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is 150 Royall St., Canton, MA 02021.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our common stock, shares of our preferred stock or debt securities. The following description sets forth certain general terms and provisions of the warrants that we may offer pursuant to this prospectus. The particular terms of the warrants and the extent, if any, to which the general terms and provisions may apply to the warrants so offered will be described in the applicable prospectus supplement.

Warrants may be issued independently or together with other securities and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants and will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

A copy of the forms of the warrant agreement and the warrant certificate relating to any particular issue of warrants will be filed with the SEC each time we issue warrants, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the warrant agreement and the related warrant certificate, see “Where You Can Find More Information.”

Stock Warrants

The prospectus supplement relating to a particular issue of warrants to issue shares of our common stock or shares of our preferred stock will describe the terms of the common share warrants and preferred share warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of the warrants;
- the designation and terms of the shares of common stock or shares of preferred stock that may be purchased upon exercise of the warrants;
- the terms for changes or adjustments to the exercise price of the warrants;
- if applicable, the designation and terms of the securities that the warrants are issued with and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or shares of preferred stock that may be purchased upon exercise of a warrant and the price at which the shares may be purchased upon exercise;
- the dates on which the right to exercise the warrants commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. Federal income tax considerations;
- anti-dilution provisions of the warrants, if any;
- redemption or call provisions, if any, applicable to the warrants;
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants; and
- any other information we think is important about the warrants.

Debt Warrants

The prospectus supplement relating to a particular issue of warrants to issue debt securities will describe the terms of those warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of the warrants;
- the designation and terms of the debt securities purchasable upon exercise of the warrants;
- the terms for changes or adjustments to the exercise price of the warrants;
- if applicable, the designation and terms of the debt securities that the warrants are issued with and the number of warrants issued with each debt security;
- if applicable, the date from and after which the warrants and any debt securities issued with them will be separately transferable;

- the principal amount of debt securities that may be purchased upon exercise of a warrant and the price at which the debt securities may be purchased upon exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- whether the warrants represented by the warrant certificates or debt securities that may be issued upon exercise of the warrants will be issued in registered or bearer form;

- information relating to book-entry procedures, if any;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. Federal income tax considerations;
- anti-dilution provisions of the warrants, if any;
- redemption or call provisions, if any, applicable to the warrants;
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants; and
- any other information we think is important about the warrants.

Exercise of Warrants

Each warrant will entitle the holder of the warrant to purchase at the exercise price set forth in the applicable prospectus supplement the number of shares of common stock, shares of preferred stock or the principal amount of debt securities being offered. Holders may exercise warrants at any time up to the close of business on the expiration date set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants are void. Holders may exercise warrants as set forth in the prospectus supplement relating to the warrants being offered.

Until a holder exercises the warrants to purchase our shares of common stock, shares of preferred stock or debt securities, the holder will not have any rights as a holder of our shares of common stock, shares of preferred stock or debt securities, as the case may be, by virtue of ownership of warrants.

DESCRIPTION OF DEBT SECURITIES

The following is a general description of the terms of debt securities we may issue from time to time unless we provide otherwise in the applicable prospectus supplement. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities.

As required by Federal law for all bonds and notes of companies that are publicly offered, any debt securities we issue will be governed by a document called an “indenture.” We have summarized the general features of the debt securities to be governed by the indenture. The summary is not complete. An indenture is a contract between us and a financial institution acting as trustee on behalf of the holders of the debt securities and is subject to and governed by the Trust Indenture Act of 1939, as amended. The trustee has two main roles. First, the trustee can enforce holders’ rights against us if we default. There are some limitations on the extent to which the trustee acts on holders’ behalf, described in the second paragraph under “Description of Debt Securities — Events of Default.” Second, the trustee performs certain administrative duties, such as sending interest and principal payments to holders.

Because this section is a summary, it does not describe every aspect of any debt securities we may issue or the indenture governing any such debt securities. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities, and we urge you to read the applicable executed indenture, which will be filed with the SEC at the time of any offering of debt securities, because it, and not this description, will define the rights of holders of such debt securities.

A prospectus supplement will describe the particular terms of any series of debt securities we may issue, including some or all of the following:

- the designation, ranking, or title of the series of debt securities;
- the total principal amount of the series of debt securities, the denominations in which the offered debt securities will be issued and whether the offering may be reopened for additional securities of that series and on what terms;
- the percentage of the principal amount at which the series of debt securities will be offered;
- the date or dates on which principal will be payable;
- the rate or rates (which may be either fixed or variable) and/or the method of determining such rate or rates of interest, if any;
- the date or dates from which any interest will accrue, or the method of determining such date or dates, and the date or dates on which any interest will be payable;
- the terms for redemption, extension or early repayment, if any;
- the currencies in which the series of debt securities are issued and payable;
- whether the amount of payments of principal, interest or premium, if any, on a series of debt securities will be determined with reference to an index, formula or other method and how these amounts will be determined;
- the place or places of payment, transfer, conversion and/or exchange of the debt securities;
- the provision for any sinking fund;
- any restrictive covenants;
- events of default and any addition to, deletion of or change to the events of default;
- whether the series of debt securities are issuable in certificated form;
- any provisions for legal defeasance or covenant defeasance;
- whether and under what circumstances we will pay additional amounts in respect of any tax, assessment or governmental charge and, if so, whether we will have the option to redeem the debt securities rather than pay the additional amounts (and the terms of this option);
- any provisions for convertibility or exchangeability of the debt securities into or for any other securities;
- whether the debt securities are subject to subordination and the terms of such subordination;
- any listing of the debt securities on any securities exchange;
- the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiple thereof;
- if applicable, a discussion of material U.S. Federal income tax considerations, including those related to original issue discount, if applicable; and
- any other material terms.

The debt securities may be secured or unsecured obligations. Unless the prospectus supplement states otherwise, principal, interest and premium, if any, will be paid by us in immediately available funds.

General

The indenture may provide that any debt securities proposed to be sold under this prospectus and the applicable prospectus supplement relating to such debt securities (“offered debt securities”) and any debt securities issuable upon conversion or exchange of other offered securities (“underlying debt securities”) may be issued under the indenture in one or more series.

For purposes of this prospectus, any reference to the payment of principal of, or interest or premium, if any, on, debt securities will include additional amounts if required by the terms of the debt securities.

Debt securities issued under an indenture, when a single trustee is acting for all debt securities issued under the indenture, are called the “indenture securities.” The indenture may also provide that there may be more than one trustee thereunder, each with respect to one or more different series of securities issued thereunder. See “Description of Debt Securities — Resignation of Trustee” below. At a time when two or more trustees are acting under an indenture, each with respect to only certain series, the term “indenture securities” means the one or more series of debt securities with respect to which each respective trustee is acting. In the event that there is more than one trustee under an indenture, the powers and trust obligations of each trustee described in this prospectus will extend only to the one or more series of indenture securities for which it is trustee. If two or more trustees are acting under an indenture, then the indenture securities for which each trustee is acting would be treated as if issued under separate indentures.

We refer you to the applicable prospectus supplement relating to any debt securities we may issue from time to time for information with respect to any deletions from, modifications of or additions to the Events of Default or covenants that are described below, including any addition of a covenant or other provision providing event risk or similar protection, that will be applicable with respect to such debt securities.

We have the ability to issue indenture securities with terms different from those of indenture securities previously issued and, without the consent of the holders thereof, to reopen a previous issue of a series of indenture securities and issue additional indenture securities of that series unless the reopening was restricted when that series was created.

Conversion and Exchange

If any debt securities are convertible into or exchangeable for other securities, the related prospectus supplement will explain the terms and conditions of the conversion or exchange, including the conversion price or exchange ratio (or the calculation method), the conversion or exchange period (or how the period will be determined), if conversion or exchange will be mandatory or at the option of the holder or us, provisions for adjusting the conversion price or the exchange ratio and provisions affecting conversion or exchange in the event of the redemption of the underlying debt securities. These terms may also include provisions under which the number or amount of other securities to be received by the holders of the debt securities upon conversion or exchange would be calculated according to the market price of the other securities as of a time stated in the prospectus supplement.

Payment and Paying Agents

We will pay interest to the person listed in the applicable trustee’s records as the owner of the debt security at the close of business on a particular day in advance of each due date for interest, even if that person no longer owns the debt security on the interest due date. That day, often approximately two weeks in advance of the interest due date, is called the “record date.” Because we will pay all the interest for an interest period to the holders on the record date, holders buying and selling debt securities must work out between themselves the appropriate purchase price. The most common manner is to adjust the sales price of the debt securities to prorate interest fairly between buyer and seller based on their respective ownership periods within the particular interest period. This prorated interest amount is called “accrued interest.”

Events of Default

Holders of debt securities of any series will have rights if an Event of Default occurs in respect of the debt securities of such series and is not cured, as described later in this subsection. The term “Event of Default” in respect of the debt securities of any series means any of the following:

- we do not pay the principal of, or any premium on, a debt security of the series on its due date;
- we do not pay interest on a debt security of the series within 30 days of its due date;
- we remain in breach of a covenant in respect of debt securities of the series for 90 days after we receive a written notice of default stating we are in breach. The notice must be sent by either the trustee or holders of at least 25% of the principal amount of debt securities of the series;
- we file for bankruptcy or certain other events of bankruptcy, insolvency or reorganization occur; and
- any other Event of Default occurs in respect of debt securities of the series described in the prospectus supplement.

An Event of Default for a particular series of debt securities does not necessarily constitute an Event of Default for any other series of debt securities issued under the same or any other indenture. The trustee may withhold notice to the holders of debt securities of any default, except in the payment of principal, premium or interest, if it considers the withholding of notice to be in the best interests of the holders.

Remedies if an Event of Default Occurs

If an Event of Default has occurred and has not been cured or waived (other than in the case of a bankruptcy proceeding), the trustee or the holders of not less than 25% in principal amount of the debt securities of the affected series may declare the entire principal amount of all the debt securities of that series to be due and immediately payable. This is called a declaration of acceleration of maturity. A declaration of acceleration of maturity may be canceled by the holders of a majority in principal amount of the debt securities of the affected series if the default is cured or waived and certain other conditions are satisfied.

Except in cases of default, where the trustee has some special duties, the trustee typically is not required to take any action under an indenture at the request of any holders unless the holders offer the trustee reasonable protection from expenses and liability (called an “indemnity”). If reasonable indemnity is provided, the holders of a majority in principal amount of the outstanding debt securities of the relevant series may direct the time, method and place of conducting any lawsuit or other formal legal action seeking any remedy available to the trustee. The trustee may refuse to follow those directions in certain circumstances.

Before a holder is allowed to bypass the trustee and bring its own lawsuit or other formal legal action or take other steps to enforce its rights or protect its interests relating to any debt securities, the following must occur:

- the holder must give the trustee written notice that an Event of Default has occurred and remains uncured;
- the holders of at least 25% in principal amount of all outstanding debt securities of the relevant series must make a written request that the trustee take action because of the default and must offer reasonable indemnity to the trustee against the cost and other liabilities of taking that action;
- the trustee must not have taken action for 60 days after receipt of the above notice and offer of indemnity; and
- the holders of a majority in principal amount of the debt securities must not have given the trustee a direction inconsistent with the above notice during that 60-day period.

However, a holder is entitled at any time to bring a lawsuit for the payment of money due on its debt securities on or after the due date. Each year, we will furnish to each trustee a written statement of certain of our officers certifying that to their knowledge we are in compliance with the indenture and the debt securities, or else specifying any default.

Waiver of Default

The holders of a majority in principal amount of the relevant series of debt securities may waive a default for all such series of debt securities. If this happens, the default will be treated as if it had not occurred. No one can waive a payment default on a holder’s debt security, however, without the holder’s approval.

Merger or Consolidation

Under the terms of an indenture, we may be permitted to consolidate or merge with another entity. We may also be permitted to sell all or substantially all of our assets to another entity. However, typically we may not take any of these actions unless all the following conditions are met:

- if we do not survive such transaction or we convey, transfer or lease our properties and assets substantially as an entirety, the acquiring company must be a corporation, limited liability company, partnership or trust, or other corporate form, organized under the laws of any state of the United States or the District of Columbia, and such company must agree to be legally responsible for our debt securities, and, if not already subject to the jurisdiction of any state of the United States or the District of Columbia, the new company must submit to such jurisdiction for all purposes with respect to the debt securities and appoint an agent for service of process;
- alternatively, we must be the surviving company;
- immediately after the transaction no Event of Default will exist;
- we must deliver certain certificates and documents to the trustee; and
- we must satisfy any other requirements specified in the prospectus supplement relating to a particular series of debt securities.

Modification or Waiver

There are three types of changes we may make to an indenture and the debt securities issued thereunder.

Changes Requiring Approval

First, there are changes that we cannot make to debt securities without specific approval of all of the holders. The following is a list of the types of changes that may require specific approval:

- change the stated maturity of the principal of or rate of interest on a debt security;
- reduce any amounts due on a debt security;
- reduce the amount of principal payable upon acceleration of the maturity of a security following a default;
- at any time after a change of control has occurred, reduce any premium payable upon a change of control;
- change the place or currency of payment on a debt security (except as otherwise described in the prospectus or prospectus supplement);
- impair the right of holders to sue for payment;
- adversely affect any right to convert or exchange a debt security in accordance with its terms;
- reduce the percentage of holders of debt securities whose consent is needed to modify or amend the indenture;
- reduce the percentage of holders of debt securities whose consent is needed to waive compliance with certain provisions of the indenture or to waive certain defaults;
- modify any other aspect of the provisions of the indenture dealing with supplemental indentures, modification and waiver of past defaults, changes to the quorum or voting requirements or the waiver of certain covenants; and
- change any obligation we have to pay additional amounts.

Changes Not Requiring Approval

The second type of change does not require any vote by the holders of the debt securities. This type is limited to clarifications and certain other changes that would not adversely affect holders of the outstanding debt securities in any material respect, including the addition of covenants. We also do not need any approval to make any change that affects only debt securities to be issued under the indenture after the change takes effect.

Changes Requiring Majority Approval

Any other change to the indenture and the debt securities may require the following approval:

- if the change affects only one series of debt securities, it must be approved by the holders of a majority in principal amount of that series; and
- if the change affects more than one series of debt securities issued under the same indenture, it must be approved by the holders of a majority in principal amount of all of the series affected by the change, with all affected series voting together as one class for this purpose.

The holders of a majority in principal amount of all of the series of debt securities issued under an indenture, voting together as one class for this purpose, may waive our compliance obligations with respect to some of our covenants in that indenture. However, we cannot obtain a waiver of a payment default or of any of the matters covered by the bullet points included above under “Description of Debt Securities — Modification or Waiver — Changes Requiring Approval.”

Defeasance

The following provisions will be applicable to each series of debt securities unless we state in the applicable prospectus supplement that the provisions of covenant defeasance and legal defeasance will not be applicable to that series.

Covenant Defeasance

We can make the deposit described below and be released from some of the restrictive covenants in the indenture under which the particular series was issued. This is called “covenant defeasance.” In that event, the holders would lose the protection of those restrictive covenants but would gain the protection of having money and government securities set aside in trust to repay holders’ debt securities. If applicable, a holder also would be released from the subordination provisions described under “Description of Debt Securities — Indenture Provisions — Subordination” below. In order to achieve covenant defeasance, we must do the following:

- If the debt securities of the particular series are denominated in U.S. dollars, we must deposit in trust for the benefit of all holders of such debt securities a combination of money and U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on the debt securities on their various due dates;
- We may be required to deliver to the trustee a legal opinion of our counsel confirming that, under current U.S. Federal income tax law, we may make the above deposit without causing the beneficial owners of the debt securities to be taxed on the debt securities any differently than if we did not make the deposit and just repaid the debt securities ourselves at maturity; and
- We must deliver to the trustee certain documentation stating that all conditions precedent to covenant defeasance have been complied with.

If we accomplish covenant defeasance, holders can still look to us for repayment of the debt securities if there were a shortfall in the trust deposit or the trustee is prevented from making payment. In fact, if one of the remaining Events of Default occurred (such as our bankruptcy) and the debt securities became immediately due and payable, there might be a shortfall. Depending on the event causing the default, holders may not be able to obtain payment of the shortfall.

Legal Defeasance

As described below, we can legally release ourselves from all payment and other obligations on the debt securities of a particular series (called “legal defeasance”), (1) if there is a change in U.S. Federal tax law that allows us to effect the release without causing the holders to be taxed any differently than if the release had not occurred, and (2) if we put in place the following other arrangements for holders to be repaid:

- If the debt securities of the particular series are denominated in U.S. dollars, we must deposit in trust for the benefit of all holders of such debt securities a combination of money and U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on the debt securities on their various due dates;

We may be required to deliver to the trustee a legal opinion confirming that there has been a change in current U.S. Federal tax law or an Internal Revenue Service ruling that allows us to make the above deposit without causing the beneficial owners of the debt securities to be taxed on the debt securities any differently than if we did not make the deposit and just repaid the debt securities ourselves at maturity. Under current U.S. Federal tax law, the deposit and our legal release from the debt securities would be treated as though we paid each beneficial owner its share of the cash and notes or bonds at the time the cash and notes or bonds were deposited in trust in exchange for its debt securities and beneficial owners would recognize gain or loss on the debt securities at the time of the deposit; and

- We must deliver to the trustee a legal opinion and officers’ certificate stating that all conditions precedent to legal defeasance have been complied with.

If we ever did accomplish legal defeasance, as described above, holders would have to rely solely on the trust deposit for repayment of the debt securities. Holders could not look to us for repayment in the unlikely event of any shortfall. Conversely, the trust deposit would most likely be protected from claims of our lenders and other creditors if we ever became bankrupt or insolvent. If applicable, holders would also be released from the subordination provisions described later under “Description of Debt Securities — Indenture Provisions — Subordination.”

Resignation of Trustee

Each trustee may resign or be removed with respect to one or more series of indenture securities provided that a successor trustee is appointed to act with respect to such series. In the event that two or more persons are acting as trustee with respect to different series of indenture securities under the indenture, each of the trustees will be a trustee of a trust separate and apart from the trust administered by any other trustee.

Indenture Provisions — Subordination

Upon any distribution of our assets upon our dissolution, winding up, liquidation or reorganization, the payment of the principal of (and premium, if any) and interest on any indenture securities denominated as subordinated debt securities is to be subordinated to the extent provided in the indenture in right of payment to the prior payment in full of all Senior Indebtedness (defined below), but our obligation to holders to make payment of the principal of (and premium, if any) and interest on such subordinated debt securities will not otherwise be affected. In addition, no payment on account of principal (or premium, if any), interest or sinking fund, if any, may be made on such subordinated debt securities at any time unless full payment of all amounts due in respect of the principal (and premium, if any), interest and sinking fund, if any, on Senior Indebtedness has been made or duly provided for in money or money's worth.

In the event that, notwithstanding the foregoing, any payment from us is received by the trustee in respect of subordinated debt securities or by the holders of any of such subordinated debt securities before all Senior Indebtedness is paid in full, the payment or distribution must be paid over to the holders of the Senior Indebtedness or on their behalf for application to the payment of all the Senior Indebtedness remaining unpaid until all the Senior Indebtedness has been paid in full, after giving effect to any concurrent payment or distribution to the holders of the Senior Indebtedness. Subject to the payment in full of all Senior Indebtedness, the holders of such subordinated debt securities will be subrogated to the rights of the holders of the Senior Indebtedness to the extent of payments made to the holders of the Senior Indebtedness out of the distributive share of such subordinated debt securities.

By reason of this subordination, in the event of a distribution of our assets upon our insolvency, certain of our senior creditors may recover more, ratably, than holders of any subordinated debt securities. The related indenture will provide that these subordination provisions will not apply to money and securities held in trust under the defeasance provisions of the indenture.

“Senior Indebtedness” will be defined in an applicable indenture as the principal of (and premium, if any) and unpaid interest on:

- our indebtedness (including indebtedness of others guaranteed by us), whenever created, incurred, assumed or guaranteed, for money borrowed (other than indenture securities issued under the indenture and denominated as subordinated debt securities), unless in the instrument creating or evidencing the same or under which the same is outstanding it is provided that this indebtedness is not senior or prior in right of payment to the subordinated debt securities; and
- renewals, extensions, modifications and refinancings of any of such indebtedness.

The prospectus supplement accompanying any series of indenture securities denominated as subordinated debt securities will set forth the approximate amount of our Senior Indebtedness outstanding as of a recent date.

Trustee

We intend to name the indenture trustee for each series of indenture securities in the related prospectus supplement.

Certain Considerations Relating to Foreign Currencies

Debt securities denominated or payable in foreign currencies may entail significant risks. These risks include the possibility of significant fluctuations in the foreign currency markets, the imposition or modification of foreign exchange controls and potential illiquidity in the secondary market. These risks will vary depending upon the currency or currencies involved and will be more fully described in the applicable prospectus supplement.

DESCRIPTION OF RIGHTS

The following is a general description of the terms of the rights we may issue from time to time unless we provide otherwise in the applicable prospectus supplement. Particular terms of any rights we offer will be described in the prospectus supplement relating to such rights.

General

We may issue rights to purchase common stock, preferred stock, debt securities or units. Rights may be issued independently or together with other securities and may or may not be transferable by the person purchasing or receiving the rights. In connection with any rights offering to our stockholders, we may enter into a standby underwriting, backstop or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. In connection with a rights offering to our stockholders, we would distribute certificates evidencing the rights and a prospectus supplement to our stockholders on or about the record date that we set for receiving rights in such rights offering.

The applicable prospectus supplement will describe the following terms of any rights we may issue, including some or all of the following:

- the title and aggregate number of the rights;
- the subscription price or a formula for the determination of the subscription price for the rights and the currency or currencies in which the subscription price may be payable;
- if applicable, the designation and terms of the securities with which the rights are issued and the number of rights issued with each such security or each principal amount of such security;
- the number or a formula for the determination of the number of the rights issued to each stockholder;
- the extent to which the rights are transferable;
- in the case of rights to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one right;
- in the case of rights to purchase common stock or preferred stock, the type of stock and number of shares of stock purchasable upon exercise of one right;
- the date on which the right to exercise the rights will commence, and the date on which the rights will expire (subject to any extension);
- if applicable, the minimum or maximum amount of the rights that may be exercised at any one time;
- the extent to which such rights include an over-subscription privilege with respect to unsubscribed securities;
- if applicable, the procedures for adjusting the subscription price and number of shares of common stock or preferred stock purchasable upon the exercise of each right upon the occurrence of certain events, including stock splits, reverse stock splits, combinations, subdivisions or reclassifications of common stock or preferred stock;
- the effect on the rights of any merger, consolidation, sale or other disposition of our business;
- the terms of any rights to redeem or call the rights;
- information with respect to book-entry procedures, if any;
- the terms of the securities issuable upon exercise of the rights;
- if applicable, the material terms of any standby underwriting, backstop or other purchase arrangement that we may enter into in connection with the rights offering;
- if applicable, a discussion of material U.S. Federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the exchange and exercise of the rights.

Exercise of Rights

Each right will entitle the holder to purchase for cash or other consideration such shares of stock or principal amount of securities at the subscription price as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the rights offered thereby. Rights may be exercised as set forth in the applicable prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement relating to the rights offered thereby. After the close of business on the expiration date, unexercised rights will become void.

Upon receipt of payment and a subscription certificate properly completed and duly executed at the corporate trust office of the subscription agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon such exercise. If less than all of the rights represented by such subscription certificate are exercised, a new subscription certificate will be issued for the remaining rights. If we so indicate in the applicable prospectus supplement, holders of the rights may surrender securities as all or part of the exercise price for rights.

We may determine to offer any unsubscribed offered securities directly to stockholders, persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting, backstop or other arrangements, as set forth in the applicable prospectus supplement.

Prior to exercising their rights, holders of rights will not have any of the rights of holders of the securities purchasable upon subscription, including, in the case of rights to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of rights to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

DESCRIPTION OF UNITS

We may issue units comprising one or more securities described in this prospectus in any combination. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see “Where You Can Find More Information.”

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

SELLING SECURITYHOLDERS

Up to 500,000 shares of our common stock may also be offered and sold from time to time by one or more selling securityholders to be identified in the future. Such selling securityholders acquired the common stock from us upon conversion of certain convertible securities issued by us, in offerings exempt from the registration requirements of the Securities Act, prior to our initial public offering and are subject to the Registration Rights Agreement. Information about selling securityholders and the securities to be sold by them, where applicable, will be set forth in a post-effective amendment, a prospectus supplement or in filings we make with the SEC under the Exchange Act which are incorporated by reference into this prospectus.

PLAN OF DISTRIBUTION

We or any selling securityholder may sell the securities offered by this prospectus in any one or more of the following ways from time to time:

- to or through one or more underwriters, brokers or dealers;
- through agents to investors or the public;
- in short or long transactions;
- through put or call option transactions relating to our common stock;
- directly to agents or other purchasers;
- in “at the market offerings” within the meaning of Rule 415(a)(4) of the Securities Act of 1933, as amended, or the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- through a combination of any such methods of sale; or
- through any other method described in the applicable prospectus supplement.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing securityholders. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act, and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price, or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

The applicable prospectus supplement will set forth the terms of the offering and the method of distribution and will identify any firms acting as underwriters, dealers or agents in connection with the offering, including:

- the terms of the offering;
- the names of any underwriters, dealers or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities and the proceeds to us from the sale;
- any over-allotment options under which the underwriters may purchase additional shares of common stock from us;
- any underwriting discounts, concessions, commissions or agency fees and other items constituting compensation to underwriters, dealers or agents;
- any delayed delivery arrangements;
- any public offering price;
- any discounts or concessions allowed or re-allowed or paid by underwriters or dealers to other dealers; or
- any securities exchange or market on which the common stock offered in the prospectus supplement may be listed.

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account for resale to the public, either on a firm commitment basis or a best efforts basis. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer the securities to the public either through underwriting

syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. If an underwriter or underwriters are used in the sale of securities hereunder, an underwriting agreement will be executed with the underwriter or underwriters at the time an agreement for sale is reached. Unless we inform you otherwise in the applicable prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions. We may change from time to time any public offering price and any discounts or concessions the underwriters allow or pay to dealers.

During and after an offering through underwriters, the underwriters may purchase and sell the securities in the open market. These transactions may include overallocation and stabilizing transactions and purchases to cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered securities sold for their account may be reclaimed by the syndicate if the offered securities are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the offered securities, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise or the securities are sold by us to an underwriter in a firm commitment underwritten offering. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

Some or all of the securities that we offer through this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell our securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities that we offer.

If dealers are used for the sale of securities, we, or an underwriter, will sell the securities to them as principals. The dealers may then resell those securities to the public at varying prices determined by the dealers at the time of resale. We will include in the applicable prospectus supplement the names of the dealers and the terms of the transaction.

We may also sell the securities through agents designated from time to time. In the applicable prospectus supplement, we will name any agent involved in the offer or sale of the offered securities, and we will describe any commissions payable to the agent. Unless we inform you otherwise in the applicable prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly in transactions not involving underwriters, dealers or agents.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. We will describe the terms of any such sales in the prospectus supplement.

Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the applicable securities laws and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the applicable securities laws. We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation. We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities, including liabilities under the applicable securities laws.

Underwriters, dealers and agents may engage in transactions with or perform services for us in the ordinary course of their businesses for which they may receive customary fees and reimbursement of expenses.

We may use underwriters with whom we have a material relationship. We will describe the nature of such relationship in the applicable prospectus supplement.

Under the securities laws of some states, the securities offered by this prospectus may be sold in those states only through registered or licensed brokers or dealers.

We may enter into hedging transactions with broker-dealers and the broker-dealers may engage in short sales of the securities in the course of hedging the positions they assume with us, including, without limitation, in connection with distributions of the securities by those broker-dealers. We may enter into option or other transactions with broker-dealers that involve the delivery of the securities offered hereby to the broker-dealers, who may then resell or otherwise transfer those securities. We may also loan or pledge the securities offered hereby to a broker-dealer and the broker-dealer may sell the securities offered hereby so loaned or upon a default may sell or otherwise transfer the pledged securities offered hereby.

LEGAL MATTERS

The validity of the securities being offered hereby will be passed upon for us by Sidley Austin LLP, New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2019, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

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 appearing in Aprea Therapeutics Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2019, have been audited by Ernst & Young AB, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933, as amended (the “Securities Act”), with respect to the securities offered by this prospectus and any applicable prospectus supplement. This prospectus and any applicable prospectus supplement do not contain all of the information set forth in the registration statement and its exhibits and schedules in accordance with SEC rules and regulations. For further information with respect to us and the securities being offered by this prospectus and any applicable prospectus supplement, you should read the registration statement, including its exhibits and schedules. Statements contained in this prospectus and any applicable prospectus supplement, including documents that we have incorporated by reference, as to the contents of any contract or other document referred to are not necessarily complete, and, with respect to any contract or other document filed as an exhibit to the registration statement or any other such document, each such statement is qualified in all respects by reference to the corresponding exhibit. You should review the complete contract or other document to evaluate these statements. You may obtain copies of the registration statement and its exhibits via the SEC’s website at <http://www.sec.gov>.

We file annual, quarterly and current reports, proxy statements and other documents with the SEC under the U.S. Securities Exchange Act of 1934, as amended (the “Exchange Act”). The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC. You may obtain documents that we file with the SEC at <http://www.sec.gov>. We also make these documents available on our website at www.aprea.com. Our website and the information contained or accessible through our website is not incorporated by reference in this prospectus or any prospectus supplement, and you should not consider it part of this prospectus or any prospectus supplement.

INFORMATION INCORPORATED BY REFERENCE

SEC rules permit us to incorporate information by reference in this prospectus and any applicable prospectus supplement. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus and any applicable prospectus supplement, except for information superseded by information contained in this prospectus or any applicable prospectus supplement itself or in any subsequently filed incorporated document. This prospectus and any applicable prospectus supplement incorporate by reference the documents set forth below that we have previously filed with the SEC (Commission File No. 001-39069), other than information in such documents that is deemed to be furnished and not filed. These documents contain important information about us and our business and financial condition.

- [Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 27, 2020;](#)
- [Quarterly Report on Form 10-Q for the period ended March 31, 2020, filed with the SEC on May 15, 2020;](#)
- [Quarterly Report on Form 10-Q for the period ended June 30, 2020, filed with the SEC on August 11, 2020;](#)
- [Quarterly Report on Form 10-Q for the period ended September 30, 2020, filed with the SEC on November 6, 2020;](#)
- Current Reports on Form 8-K, filed with the SEC on [April 3, 2020](#), [June 29, 2020](#), [September 18, 2020](#) (other than the information furnished pursuant to Item 7.01 and Exhibit 99.1) and [September 29, 2020](#) (other than the information furnished pursuant to Item 7.01 and Exhibit 99.1); and
- [the description of our Common Stock contained in our Registration Statement on Form 8/A, dated September 30, 2019, including any amendments or reports filed for the purpose of updating such description.](#)

All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, and any previously filed documents. All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering of any of the securities covered under this prospectus shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, the applicable prospectus supplement and any previously filed documents.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference in this prospectus or any applicable prospectus supplement shall be deemed to be modified or superseded for purposes of this prospectus and such applicable prospectus supplement to the extent that a statement contained in this prospectus or such applicable prospectus supplement, or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus and such applicable prospectus supplement, modifies or supersedes such earlier statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or such applicable prospectus supplement.

You can obtain any of the filings incorporated by reference into this prospectus or any applicable prospectus supplement through us or from the SEC through the SEC’s website at <http://www.sec.gov>. Upon request, we will provide, without charge, a copy of any or all of the reports and documents referred to above which have been incorporated by reference into this prospectus or any applicable prospectus supplement. Prospective investors may obtain documents incorporated by reference in this prospectus or any applicable prospectus supplement by requesting them in writing or by telephone from us at our executive offices at:

Aprea Therapeutics, Inc.
535 Boylston Street
Boston MA 02116
(617) 463-9385

Our reports and documents incorporated by reference herein may also be found in the “Investor Relations” section of our website at www.aprea.com. The content of our website and any information that is linked to or accessible from our website (other than our filings with the SEC that are incorporated by reference, as set forth under “Incorporation of Certain Documents by Reference”) is not incorporated by reference into this prospectus or any applicable prospectus supplement and you should not consider it a part of this prospectus, any applicable prospectus supplement, or the registration statement.



**Common Stock
Preferred Stock
Warrants
Debt Securities
Rights to Purchase Common Stock, Preferred Stock,
Debt Securities or Units
Units**

, 2020

PROSPECTUS

The information in this prospectus is not complete and may be changed. We may not sell these securities or accept an offer to buy these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting offers to buy these securities in any state or jurisdiction where such offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED NOVEMBER 24, 2020

PROSPECTUS

Up to \$50,000,000



Common Stock

We have entered into a sales agreement with SVB Leerink LLC (“SVB Leerink”) relating to shares of our common stock, par value \$0.001 per share, offered by this prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$50,000,000 from time to time through SVB Leerink acting as our agent.

Our common stock is listed on The NASDAQ Global Select Market under the symbol “APRE”. On November 23, 2020, the last reported sale price of our common stock on The NASDAQ Global Select Market was \$24.48 per share.

Sales of our common stock, if any, under this prospectus will be made in sales deemed to be “at the market offerings” as defined in Rule 415 promulgated under the Securities Act of 1933, as amended (the “Securities Act”). SVB Leerink is not required to sell any specific amount of securities, but will act as our sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between SVB Leerink and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to SVB Leerink for sales of common stock sold pursuant to the sales agreement will be an amount equal to 3% of the gross proceeds of any shares of common stock sold under the sales agreement. In connection with the sale of the common stock on our behalf, SVB Leerink will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of SVB Leerink will be deemed to be underwriting commissions or discounts. See “Plan of Distribution” beginning on page S-14 for additional information regarding the compensation to be paid to SVB Leerink. We have also agreed to provide indemnification and contribution to SVB Leerink with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

We are an “emerging growth company” and a “smaller reporting company” under federal securities laws and as such, have elected to comply with reduced public company reporting requirements for this prospectus and the documents incorporated by reference herein and may elect to comply with reduced public company reporting requirements in future filings. See “Summary—Implications of Being an Emerging Growth Company and Smaller Reporting Company.”

Our business and an investment in our common stock involve significant risks. These risks are described under the caption “Risk Factors” beginning on page S-6 of this prospectus and in the documents incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

SVB Leerink

, 2020

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ABOUT THIS PROSPECTUS

This prospectus is part of a shelf registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”). Under the shelf registration process, we may offer shares of our common stock having an aggregate offering price of up to \$50,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of the offering.

We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this at-the-market sales agreement prospectus, which describes the specific details regarding this offering; and (2) the accompanying base prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus,” we are referring to both documents combined. If information in this at-the-market sales agreement prospectus is inconsistent with the accompanying base prospectus, you should rely on this prospectus. However, if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus—the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

You should rely only on the information contained in, or incorporated by reference into, this prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and SVB Leerink has not, authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and SVB Leerink is not, making an offer to sell or soliciting an offer to buy our securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus, the documents incorporated by reference into this prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, the documents incorporated by reference into this prospectus, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus entitled “Where You Can Find More Information” and “Incorporation by Reference.”

We are offering to sell, and seeking offers to buy, shares of common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

In this prospectus, the terms “Aprea,” “Company,” “we,” “us,” “our” and similar terms refer to Aprea Therapeutics, Inc., a Delaware corporation, and its subsidiaries unless the context otherwise requires.

This prospectus and the information incorporated herein by reference include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference in this prospectus are the property of their respective owners.

MARKET DATA

This prospectus and the documents incorporated by reference herein include market and industry data and forecasts concerning our business and the markets for certain cancers, including data regarding the estimated size of those markets and the incidence and prevalence of certain medical conditions, that we have derived from independent consultant reports, publicly available information, various industry, medical and general publications, other published industry sources, government data and our internal data and estimates. Independent consultant reports, industry publications and other published industry sources generally indicate that the information contained therein was obtained from sources believed to be reliable. Our internal data and estimates are based upon information obtained from trade and business organizations and other contacts in the markets in which we operate and our management’s understanding of industry conditions.

PROSPECTUS SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in the securities covered by this prospectus. For a more complete understanding of Aprea and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference in this prospectus and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information referred to under the heading “Risk Factors” in this prospectus beginning on page S-6.

Overview

We are a clinical-stage biopharmaceutical company focused on developing and commercializing novel cancer therapeutics that reactivate the mutant p53 tumor suppressor protein. p53 is the protein expressed from the *TP53* gene, the most commonly mutated gene in cancer. We believe that mutant p53 is an attractive therapeutic target due to the high incidence of p53 mutations across a range of cancer types and its involvement in key cellular activities such as apoptosis. Cancer patients with mutant p53 face a significantly inferior prognosis even when treated with the current standard of care, and a large unmet need for these patients remains. Our lead product candidate, APR-246, or *eprenetapopt*, is a small molecule p53 reactivator that is in late-stage clinical development for hematologic malignancies, including myelodysplastic syndromes, or MDS, and acute myeloid leukemia, or AML. Eprenetapopt has received orphan drug, fast track and breakthrough therapy designations from the U.S. Food and Drug Administration, or the FDA for MDS, and orphan drug designation from the European Commission for MDS and AML and we believe eprenetapopt will be a first-in-class therapy if approved by applicable regulators.

Our second product candidate, APR-548, is a pre-clinical, next generation p53 reactivator with the potential for oral administration. APR-548 exhibits high oral bioavailability in preclinical testing and is being developed in an oral dosage form. We completed Investigational New Drug, or IND, enabling preclinical studies of APR-548 and filed an IND with the FDA. Following a request for additional information by the FDA before the initiation of human clinical trials, we received clearance from the FDA in October 2020 to initiate Phase 1 clinical trials for APR-548.

Implications of Being an Emerging Growth Company and Smaller Reporting Company

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We may take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm under Section 404 of the Sarbanes-Oxley Act of 2002 reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments. We may take advantage of these exemptions until December 31, 2024 or until we are no longer an “emerging growth company,” whichever is earlier. We will cease to be an emerging growth company prior to the end of such period if certain earlier events occur, including if we become a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or Exchange Act, our annual gross revenues exceed \$1.07 billion or we issue more than \$1.0 billion of non-convertible debt in any three-year period.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of accounting standards that have different effective dates for public and private companies until those standards would otherwise apply to private companies. We have not elected to avail ourselves of this exemption and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not “emerging growth companies.”

We are also a “smaller reporting company” as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our voting and non-voting common stock held by non-affiliates is less than \$250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than \$100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is less than \$700.0 million measured on the last business day of our second fiscal quarter.

Corporate Information

Our principal executive offices are located at 535 Boylston Street, Boston, Massachusetts 02116, and our telephone number is (617) 463-9385. Our website address is www.aprea.com. The information contained on or accessible through our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

Our filings with the SEC are posted on our website at www.aprea.com. The information found on or accessible through our website is not part of this or any other report we file with or furnish to the SEC. The public can also obtain copies of these filings by accessing the SEC’s website at <http://www.sec.gov>.

The Offering

Common stock offered by us	Shares having an aggregate offering price of up to \$50,000,000.
Common stock to be outstanding after this offering	Up to 23,229,311 shares, assuming the sale of \$50,000,000 of shares at a sales price of \$24.48 per share, which was the last reported sale price on The NASDAQ Global Select Market on November 23, 2020. The actual number of shares issued and outstanding will vary depending on the sales price under this offering.
Manner of offering	“At-the-market” offering that may be made from time to time through our sales agent, SVB Leerink. See “Plan of Distribution” on page S-14 of this prospectus.
Use of proceeds	Our management will retain broad discretion regarding the allocation and use of the net proceeds from this offering. We currently intend to use the net proceeds from this offering, if any, for general corporate purposes, including for preclinical studies and clinical trials and the advancement of our product candidates. See “Use of Proceeds” on page S-9 of this prospectus.
NNASDAQ Global Select Market symbol	“APRE”
Risk factors	Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-6 of this prospectus and the other information included in, or incorporated by reference into, this prospectus for a discussion of certain factors that you should carefully consider before deciding to invest in shares of our common stock.

The number of shares of common stock shown above to be outstanding immediately following this offering is based on 21,186,827 shares outstanding as of September 30, 2020 and excludes:

- 3,771,459 shares of common stock, with a weighted-average exercise price of \$9.10 per share, issuable upon exercise of stock options outstanding as of September 30, 2020 under our 2019 Stock Incentive Plan; and
- 1,830,804 shares of common stock reserved for issuance pursuant to future awards under our 2019 Stock Incentive Plan or our Employee Stock Purchase Plan, plus any future increases in the number of shares of common stock reserved for issuance under our 2019 Stock Incentive Plan or our Employee Stock Purchase Plan pursuant to provisions thereof that automatically increase the share reserve under the plan each year.

This prospectus reflects and assumes no exercise of outstanding options or warrants.

RISK FACTORS

Investing in our securities involves risk. You should carefully consider the specific risks discussed below, together with all the other information contained in the prospectus or incorporated by reference into this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the caption "Risk Factors" included in our [Annual Report on Form 10-K for the year ended December 31, 2019](#) and in our [Quarterly Reports on Form 10-Q](#) for the periods ended [March 31](#), [June 30](#) and [September 30, 2020](#), and in subsequent filings, which are incorporated by reference into this prospectus. These risk factors may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described in our SEC filings or any additional risks and uncertainties actually occur, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our securities could decline and you might lose all or part of your investment.

Risks Related to This Offering

We have broad discretion in the use of the net proceeds from this offering.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways with which you may not agree. Accordingly, you will be relying on the judgment of our management with regard to the use of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the net proceeds will be invested or otherwise used in a way that does not yield a favorable, or any, return for the Company.

Investors in this offering will experience immediate and substantial dilution in the net tangible book value per share of the common stock they purchase.

Since the price per share of our common stock being offered is higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. See the section entitled "Dilution" in this prospectus for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering. In addition, we have a significant number of options outstanding. If the holders of these options exercise such options, you may incur further dilution.

Our stockholders may experience significant dilution as a result of future equity offerings and exercise of outstanding options.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

In addition, we have a number of securities allowing the purchase of, our common stock. As of November 23, 2020, 1,580,804 shares of common stock were reserved for future issuance under our stock incentive plan. As of that date, there were also options to purchase 3,771,459 shares of our common stock outstanding. The exercise of outstanding options having an exercise price per share that is less than the offering price per share in this offering will increase dilution to investors in this offering.

It is not possible to predict the aggregate proceeds resulting from sales made under the sales agreement.

Subject to certain limitations in the sales agreement and compliance with applicable law, we have the discretion to deliver a placement notice to SVB Leerink at any time throughout the term of the sales agreement. The number of shares that are sold through SVB Leerink after delivering a placement notice will fluctuate based on a number of factors, including the market price of our common stock during the sales period, any limits we may set with SVB Leerink in any applicable placement notice and the demand for our common stock. Because the price per share of each share sold pursuant to the sales agreement will fluctuate over time, it is not currently possible to predict the aggregate proceeds to be raised in connection with sales under the sales agreement.

The common stock offered hereby will be sold in “at-the-market offerings” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and accordingly may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices and number of shares sold in this offering. In addition, subject to the final determination by our board of directors or any restrictions we may place in any applicable placement notice, there is no minimum or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

The issuance of our common stock under this and subsequent offerings may result in an ownership change, which may have the effect of devaluing significant deferred tax assets of the company.

Our ability to use our net operating losses and other deferred tax assets to offset future taxable income in Sweden and the United States may be significantly limited if we experience an ownership change. The issuance of our common stock under this and subsequent offerings may result in an ownership change, depending on the amount of stock we issue. For Swedish income tax purposes, an ownership change will generally occur when one, or several shareholders together, acquire shares representing more than 50 percent of the voting power over a five year period (under special provisions in Chapter 40 of the Swedish Income Tax Act; 1999:1229). Such an ownership change results in the forfeiture of tax losses carried forward exceeding 200 percent of the cost of the change of control. In this calculation, capital contributions to the company prior to the ownership change and in the preceding two years should reduce the cost of the change of control. Due to potential ownership changes under the Swedish Income Tax Act, we may be limited in our ability to realize a tax benefit on our deferred tax assets, whether or not we attain profitability in future years.

For U.S. federal income tax purposes, an ownership change will generally occur when the percentage of our stock (by value) owned by one or more “5 percent shareholders” (as defined in the U.S. Internal Revenue Code of 1986, as amended) has increased by more than 50% over the lowest percentage owned by such shareholders at any time during the prior three years (calculated on a rolling basis). We anticipate that we will incur losses in the United States in the foreseeable future related to our research and development activities. Due to potential ownership changes under Section 382 of the Code, we may be limited in our ability to realize a tax benefit from the use of our deferred tax assets, whether or not we attain profitability in future years.

For these reasons, an ownership change would have an adverse effect on our results of operations and financial condition.

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock in this offering.

Our stock price has been and is likely to continue to be volatile. The stock market in general and the market for pharmaceutical and biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, our stockholders may not be able to sell our common stock at or above the price they paid for it. The market price for our common stock may be influenced by many factors, including:

- the timing and results of clinical trials of eprenetapopt and any of our other product candidates;
- regulatory actions with respect to our product candidates or our competitors’ products and product candidates;
- the success of existing or new competitive products or technologies;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- establishment or termination of collaborations for our product candidates or development programs;
- failure or discontinuation of any of our development programs;
- results of clinical trials of product candidates of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or development programs;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates or products;
- actual or anticipated changes in estimates as to financial results or development timelines;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or other stockholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in estimates or recommendations by securities analysts, if any, that cover our stock;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in the “Risk Factors” sections of our [Form 10-K for the year ended December 31, 2019](#) and in our Quarterly Reports on Form 10-Q for the periods ended [March 31](#), [June 30](#) and [September 30, 2020](#), and in subsequent filings, which are incorporated by reference into this prospectus

In addition, the spread of COVID-19 has caused a broad impact globally. While the potential economic impact brought by, and the duration of, COVID-19 may be difficult to assess or predict, it has significantly disrupted global financial markets, and a recession or market correction resulting from the spread or continuation of COVID-19 could materially affect our business and the value of our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes and incorporates by reference “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and releases issued by the SEC and within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. All statements other than statements of historical fact are “forward-looking statements” for purposes of this prospectus. In some cases, you can identify forward-looking statements by terminology such as “may,” “could,” “will,” “would,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “intend,” “predict,” “seek,” “contemplate,” “project,” “continue,” “potential,” “ongoing,” “goal,” or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- estimates of our expenses, capital requirements and our needs for additional financing;
- business interruptions, including delays in enrollment, patient follow-up and data collection of clinical trials, resulting from the outbreak of the novel coronavirus, COVID-19;
- the prospects of eprenetapopt and other product candidates, which are still in development;
- outcome and results of ongoing or future preclinical studies and clinical trials of eprenetapopt;
- the design of our multiple clinical trials, including the sample size, trial duration, endpoint definition, event rate assumptions and eligibility criteria;
- our expectations regarding the timing of data from our Phase 3 and additional clinical trials;
- market acceptance or commercial success of eprenetapopt and the degree of acceptance among physicians, patients, patient advocacy groups, health care payors and the medical community;
- our expectations regarding competition, potential market size, the size of the patient populations for eprenetapopt, if approved for commercial use, and market acceptance;
- our ability to maintain regulatory approval of eprenetapopt, and any related restrictions, limitations and/or warnings in the label of eprenetapopt;
- the scope of protection we are able to establish, maintain and enforce for intellectual property rights covering eprenetapopt;
- potential claims relating to our intellectual property and third-party intellectual property;
- the duration of our intellectual property estate that will provide protection for eprenetapopt;
- developments relating to our competitors and our industry;
- our sales, marketing or distribution capabilities and our ability to commercialize eprenetapopt, if we obtain regulatory approval;
- current and future agreements with third parties in connection with the manufacturing, commercialization, packaging and distribution of eprenetapopt;
- our expectations regarding the ability of our current contract manufacturing partners to produce eprenetapopt in the quantities and timeframe that we will require;
- our expectations regarding our future costs of goods;
- our ability to generate sufficient or positive preclinical, toxicology, or other *in vivo* or *in vitro* data to support the initiation of clinical trials of APR-548;
- our ability to attract, retain and motivate key personnel and increase the size of our organization;
- our ability to establish collaborations in lieu of obtaining additional financing;
- the impact of government laws and regulations;
- our financial performance; and
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act or a smaller reporting company under the Exchange Act.

These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In evaluating such forward-looking statements, you should specifically consider various factors that may cause actual results to differ materially from current expectations, including the risks outlined under the heading “Risk Factors” contained in this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein. Any forward-looking statement in this prospectus reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

USE OF PROCEEDS

We may issue and sell shares of our common stock having an aggregate sales proceeds of up to \$50,000,000 from time to time. The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under, or fully utilize, the sales agreement with SVB Leerink as a source of financing.

We will retain broad discretion over the use of the net proceeds from the sale of the securities offered hereby. We currently intend to use the net proceeds from this offering, if any, for general corporate purposes, including for preclinical studies and clinical trials and the advancement of our product candidates. The amount and timing of these expenditures will depend on a number of factors, such as the timing, scope, progress and results of our research and development efforts, the timing and progress of any partnership efforts, and the competitive environment for our product candidates.

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering, if any. As a result, our management will have broad discretion regarding the timing and application of the net proceeds from this offering. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, investment grade, interest-bearing securities.

DILUTION

If you invest in our common stock, you will experience dilution to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of September 30, 2020 was approximately \$89.0 million or \$4.20 per share of our common stock. Net tangible book value per share as of September 30, 2020 is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding as of September 30, 2020.

After giving effect to the sale of \$50,000,000 of shares of our common stock in this offering at an assumed offering price of \$24.48 per share, the last reported sale price of our common stock on The NASDAQ Global Select Market on November 23, 2020, and after deducting estimated offering commissions and expenses payable by us, our as adjusted net tangible book value would have been approximately \$137.3 million or \$5.91 per share of common stock, as of September 30, 2020. This represents an immediate increase in net tangible book value of approximately \$1.71 per share to existing stockholders and an immediate dilution of approximately \$18.57 per share to investors in this offering. The following table illustrates this calculation on a per share basis.

Assumed public offering price per share		\$	24.48
Net tangible book value per share as of September 30, 2020	\$	4.20	
Increase in net tangible book value per share attributable to this offering	\$	1.71	
As adjusted net tangible book value per share as of September 30, 2020, after giving effect to this offering		\$	5.91
Dilution per share to new investors purchasing shares in this offering		\$	18.57

The table above assumes for illustrative purposes that an aggregate of 2,042,484 shares of our common stock are sold at a price of \$24.48 per share, the last reported sale price of our common stock on The NASDAQ Global Select Market on November 23, 2020, for aggregate gross proceeds of \$50,000,000. The shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$24.48 per share shown in the table above, assuming \$50,000,000 of shares of our common stock is sold at that price, would increase our adjusted net tangible book value per share after the offering to \$5.93 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$19.55 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$24.48 per share shown in the table above, assuming \$50,000,000 of shares of our common stock is sold at that price, would decrease our adjusted net tangible book value per share after the offering to \$5.89 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$17.59 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The number of shares of common stock shown above to be outstanding immediately following this offering is based on 21,186,827 shares outstanding as of September 30, 2020 and excludes:

- 3,771,459 shares of common stock, with a weighted-average exercise price of \$9.10 per share, issuable upon exercise of stock options outstanding as of September 30, 2020 under our 2019 Stock Incentive Plan; and
- 1,830,804 shares of common stock reserved for issuance pursuant to future awards under our 2019 Stock Incentive Plan or our Employee Stock Purchase Plan, plus any future increases in the number of shares of common stock reserved for issuance under our 2019 Stock Incentive Plan or our Employee Stock Purchase Plan pursuant to provisions thereof that automatically increase the share reserve under the plan each year.

This prospectus also reflects and assumes no exercise of outstanding options or warrants.

The above illustration of dilution per share to investors participating in this offering assumes no exercise of outstanding options to purchase our common stock. The exercise of outstanding options having an exercise price per share that is less than the offering price per share in this offering will increase dilution to investors in this offering.

DESCRIPTION OF CAPITAL STOCK

The following description is a general summary of the terms of the shares of common stock or shares of preferred stock that we may issue. The description below and in any prospectus supplement does not include all of the terms of the shares of common stock or shares of preferred stock and should be read together with our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, copies of which have been filed previously with the SEC. For more information on how you can obtain copies of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, see "Where You Can Find More Information."

General

Our charter authorizes to issue up to 400,000,000 shares of common stock, par value \$0.001 per share, and 40,000,000 shares of preferred stock, par value \$0.001 per share. The following summary sets forth some of the general terms of our common stock. Because this is a summary, it does not contain all of the information that may be important to you. For a more detailed description of our common stock, you should read our amended and restated certificate of incorporation and the amended and restated bylaws, each of which is an exhibit to our Annual Report on Form 10-K to which this summary is also an exhibit, and the applicable provisions of the Delaware General Corporation Law (the "DGCL").

Common stock

As of November 23, 2020, we had outstanding 21,186,827 shares of common stock.

Voting Rights

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter, except as otherwise disclosed below.

Dividends

Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

Liquidation

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights.

Rights and Preferences

The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred stock

Our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock. You should refer to the applicable certificate of designation for complete information regarding a series of preferred stock to be issued under this prospectus and the applicable prospectus supplement.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. As of immediately prior to the completion of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Registration rights

We are party to an amended and restated registration rights agreement, dated as of September 20, 2019, pursuant to which certain of our stockholders, including certain holders of five percent or more of our capital stock and their affiliates and entities affiliated with certain of our directors, have the right to demand that we file a registration statement for their shares of our common stock or request that their shares of our common stock be covered by a registration statement that we are otherwise filing, including, in each case, shares of our common stock that were issued upon conversion of convertible preferred stock. These shares are referred to as registrable securities.

Demand registration rights

The stockholders, as defined in the Registration Rights Agreement, holding not less than fifty percent of the registrable securities have the right to demand that we file a registration statement to register all or a portion of their registrable securities, provided that the expected aggregate proceeds to be received from the sale of the registrable securities to be sold under the registration statement is equal to or exceeds \$10.0 million. We are not obligated to file a registration statement pursuant to this demand provision (i) on more than one occasion within any six-month period or (ii) if at the time of such request, four or more such demand registrations and underwritten takedowns, as defined in the Registration Rights Agreement, have previously been effected or deemed effected.

Form S-3 registration rights

In addition, if, at any time after the first anniversary our IPO, we become eligible to file a registration statement on Form S-3 under the Securities Act, subject to specified limitations, a stockholder or a group of stockholders, as defined in the Registration Rights Agreement, may demand in writing that we register on Form S-3 all or part of the registrable securities held by them. We are not obliged to effect more than one such underwritten takedown, as defined in the Registration Rights Agreement, within any six-month period.

Piggyback registration rights

If we propose to file a registration statement to register any of our common stock under the Securities Act (other than (i) a registration statement on Form S-3 or (ii) a registration statement relating to any employee benefit plan), either for our own account or for the account of any of our stockholders that are not holders of registrable securities, the holders of our registrable securities are entitled to notice of registration and, subject to specified exceptions, we will be required to use our commercially reasonable efforts to register the registrable securities then held by them that they request that we register. Such stockholders have agreed not to exercise their registration rights in relation to this offering.

Expenses of registration

Pursuant to the Registration Rights Agreement, we are required to pay all registration expenses, including registration fees, printing expenses, fees and disbursements of our counsel and accountants and reasonable fees and disbursements of one counsel representing all stockholders, as defined in the Registration Rights Agreement, participating in the offering, other than any underwriting discounts and commissions attributable to the sale of registrable securities, as defined in the Registration Rights Agreement.

The Registration Rights Agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify stockholders, as defined in the Registration Rights Agreement, beneficially owning registrable securities covered by a registration statement in the event of material misstatements or omissions in the registration statement attributable to us, and each stockholder, as defined in the Registration Rights Agreement, is obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

Anti-Takeover effects of Delaware law and our charter and bylaws

Delaware law, our certificate of incorporation and our bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

Staggered board; removal of directors

Our certificate of incorporation and bylaws divides our board of directors into three classes with staggered three-year terms. In addition, a director may only be removed for cause and only by the affirmative vote of the holders of a majority of the votes that all of our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, will only be able to be filled by vote of a majority of our directors then in office. The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder action by written consent; special meetings

Our certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders. Our certificate of incorporation and bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our chairman of the board, our Chief Executive Officer or our board of directors.

Advance notice requirements for stockholder proposals

Our bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting are only able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Delaware business combination statute

We are subject to Section 203 of the DGCL. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Amendment of certificate of incorporation and bylaws

DGCL provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our certificate of incorporation described above under "Staggered board; removal of directors" and "Stockholder action by written consent; special meetings."

Exclusive forum selection

Our certificate of incorporation provides, unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware (or if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of our company under Delaware law, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or employees to our company or our stockholders, (3) any action asserting a claim against our company arising pursuant to any provision of the DGCL or our certificate of incorporation or bylaws, (4) any action asserting a claim against our company governed by the internal affairs doctrine or (5) any other action asserting an "internal corporate claim," as defined in Section 115 of the DGCL. These exclusive-forum provisions do not currently apply to claims under the Securities Act of 1933, as amended, or the Exchange Act. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to this provision. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers.

Listing on The Nasdaq Global Select Market

Our common stock is listed on The Nasdaq Global Select Market under the symbol "APRE."

Authorized but unissued shares

The authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing requirements of The Nasdaq Global Select Market. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Transfer agent and registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is 150 Royall St., Canton, MA 02021.

PLAN OF DISTRIBUTION

We have entered into a sales agreement with SVB Leerink LLC (“SVB Leerink”) under which we may issue and sell from time to time up to \$50,000,000 of our common stock through SVB Leerink as our sales agent. Sales of our common stock, if any, will be made at market prices by any method that is deemed to be an “at the market” offering as defined in Rule 415 under the Securities Act, including sales made directly on The Nasdaq Global Select Market or any other trading market for our common stock. If authorized by us in writing, SVB Leerink may purchase shares of our common stock as principal.

SVB Leerink will offer our common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and SVB Leerink. We will designate the maximum amount of common stock to be sold through SVB Leerink on a daily basis or otherwise determine such maximum amount together with SVB Leerink. Subject to the terms and conditions of the sales agreement, SVB Leerink will use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct SVB Leerink not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. SVB Leerink or we may suspend the offering of our common stock being made through SVB Leerink under the sales agreement upon proper notice to the other party. SVB Leerink and we each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party’s discretion at any time.

The aggregate compensation payable to SVB Leerink as sales agent equals up to 3.0% of the gross sales price of the shares sold through it pursuant to the sales agreement. We have also agreed to reimburse SVB Leerink up to \$50,000 of SVB Leerink’s actual outside legal expenses incurred by SVB Leerink in connection with this offering, plus an additional amount of up to \$15,000 in connection with determining our compliance with the rules and regulations of the Financial Industry Regulatory Authority, Inc. (“FINRA”). We estimate that the total expenses of the offering payable by us, excluding commissions payable to SVB Leerink under the sales agreement, will be approximately \$250,000.

The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds for the sale of such common stock.

SVB Leerink will provide written confirmation to us following the close of trading on The Nasdaq Global Select Market on each day in which common stock is sold through it as sales agent under the sales agreement. Each confirmation will include the number of shares of common stock sold through it as sales agent on that day, the volume weighted average price of the shares sold, the percentage of the daily trading volume and the net proceeds to us.

To the extent any sales are made, we will report at least quarterly the number of shares of common stock sold through SVB Leerink under the sales agreement, the net proceeds to us and the compensation paid by us to SVB Leerink in connection with the sales of common stock.

Settlement for sales of common stock will occur, unless the parties agree otherwise, on the second business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sales of our common stock on our behalf, SVB Leerink may be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation paid to SVB Leerink may be deemed to be underwriting commissions or discounts. We have agreed in the sales agreement to provide indemnification and contribution to SVB Leerink against certain liabilities, including liabilities under the Securities Act. As sales agent, SVB Leerink will not engage in any transactions that stabilizes our common stock.

Our common stock is listed on The Nasdaq Global Select Market and trades under the symbol “APRE.” The transfer agent of our common stock is Computershare.

SVB Leerink and/or its affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees.

In addition, in the ordinary course of its business activities, SVB Leerink and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. SVB Leerink and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

LEGAL MATTERS

Certain legal matters in connection with the securities offered hereby will be passed upon for us by Sidley Austin LLP, New York, New York. SVB Leerink is being represented in connection with this offering by Davis Polk and Wardwell LLP, New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2019, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

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 appearing in Aprea Therapeutics Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2019, have been audited by Ernst & Young AB, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933, as amended (the “Securities Act”), with respect to the securities offered by this prospectus. This prospectus does not contain all of the information set forth in the registration statement, of which it is a part, and its exhibits and schedules in accordance with SEC rules and regulations. For further information with respect to us and the securities being offered by this prospectus, you should read the registration statement, including its exhibits and schedules. Statements contained in this prospectus, including documents that we have incorporated by reference, as to the contents of any contract or other document referred to are not necessarily complete, and, with respect to any contract or other document filed as an exhibit to the registration statement or any other such document, each such statement is qualified in all respects by reference to the corresponding exhibit. You should review the complete contract or other document to evaluate these statements. You may obtain copies of the registration statement and its exhibits via the SEC’s website at <http://www.sec.gov>.

We are subject to the information and periodic reporting requirements of the Exchange Act, and we file annual, quarterly and current reports, proxy statements and other documents with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC. You may obtain documents that we file with the SEC at <http://www.sec.gov>.

We also make these documents available on our website at www.aprea.com. Our website and the information contained or accessible through our website is not incorporated by reference in this prospectus, and you should not consider it part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

SEC rules permit us to incorporate information by reference in this prospectus. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus, except for information superseded by information contained in this prospectus itself or in any subsequently filed incorporated document. This prospectus incorporates by reference the documents set forth below that we have previously filed with the SEC (Commission File No. 001-39069), other than information in such documents that is deemed to be furnished and not filed. These documents contain important information about us and our business and financial condition.

- [Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 27, 2020;](#)
- [the information contained in our definitive proxy statement on Schedule 14A for our 2020 annual meeting of stockholders filed with the SEC on April 29, 2020, to the extent incorporated by reference in Part III of the Form 10-K;](#)
- [Quarterly Report on Form 10-Q for the period ended March 31, 2020, filed with the SEC on May 15, 2020;](#)
[Quarterly Report on Form 10-Q for the period ended June 30, 2020, filed with the SEC on August 11, 2020;](#)
- [Quarterly Report on Form 10-Q for the period ended September 30, 2020, filed with the SEC on November 6, 2020;](#)
- Current Reports on Form 8-K, filed with the SEC on [April 3, 2020](#), [June 29, 2020](#), [September 18, 2020](#) (other than the information furnished pursuant to Item 7.01 and Exhibit 99.1) and [September 29, 2020](#) (other than the information furnished pursuant to Item 7.01 and Exhibit 99.1); and
- [the description of our Common Stock contained in our Registration Statement on Form 8/A, dated September 30, 2019, including any amendments or reports filed for the purpose of updating such description.](#)

All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, and any previously filed documents. All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering of any of the securities covered under this prospectus shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus and any previously filed documents.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus, modifies or supersedes such earlier statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You can obtain any of the filings incorporated by reference into this prospectus through us or from the SEC through the SEC's website at <http://www.sec.gov>. Upon request, we will provide, without charge, a copy of any or all of the reports and documents referred to above which have been incorporated by reference into this prospectus. Prospective investors may obtain documents incorporated by reference in this prospectus by requesting them in writing or by telephone from us at our executive offices at:

Aprea Therapeutics, Inc.
535 Boylston Street
Boston MA 02116
(617) 463-9385

Our reports and documents incorporated by reference herein may also be found in the "Investor Relations" section of our website at www.aprea.com. The content of our website and any information that is linked to or accessible from our website (other than our filings with the SEC that are incorporated by reference, as set forth under "Incorporation of Certain Documents by Reference") is not incorporated by reference into this prospectus and you should not consider it a part of this prospectus or the registration statement.

Up to \$50,000,000



Common Stock

PROSPECTUS

SVB Leerink

, 2020

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

Set forth below is an estimate (except in the case of the registration fee) of the amount of fees and expenses to be incurred in connection with the issuance and distribution of the offered securities, other than underwriting discounts and commissions. All amounts are estimates except the SEC registration fee and the FINRA filing fee.

SEC registration fee	\$	39,310.37
FINRA filing fee		54,547.25
Legal fees and expenses		*
Accounting fees and expenses		*
Printing expenses		*
Transfer agent and registrar fees		*
Trustee fees (including counsel fees)		*
Miscellaneous		*
Total	\$	*

* Estimated expenses not presently known.

Item 15. Indemnification of Directors and Officers

Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of its directors for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides that none of our directors shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if 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 any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, 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 corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines 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 the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation provides that we will indemnify each person who was or is a party or is threatened to be made a party or is involved in 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 us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our 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 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, our 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. Our certificate of incorporation also provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our 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, our 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 us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of 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 us against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

We have entered into indemnification agreements with each of our executive officers and directors. In general, these agreements provide that we will indemnify the director or executive officer to the fullest extent permitted by law for claims arising in his or her capacity as a director or executive officer of our company or in connection with their service at our request for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director or executive officer makes a claim for indemnification and establish certain presumptions that are favorable to the director or executive officer.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

The sales agreement filed as Exhibit 1.2 to this registration statement provides for indemnification of us and our directors and officers by SVB Leerink against certain liabilities under the Securities Act and the Exchange Act.

The underwriting agreement, to be filed by an amendment to this registration statement, will provide for indemnification of us and our directors and officers by the underwriters against certain liabilities under the Securities Act and the Exchange Act.

Insofar as the forgoing provisions permit indemnification of directors, executive officers, or persons controlling us for liability arising under the Securities Act of 1933, as amended, or the Securities Act, we have been informed 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.

Item 16. Exhibits

Exhibit No.	Description
1.1†	Form(s) of underwriting agreement(s).
1.2*	Sales Agreement, dated as of November 12, 2020, between the Registrant and SVB Leerink LLC (previously filed with the Registration Statement on Form S-3 filed on November 12, 2020).
3.1*	Amended and Restated Certificate of Incorporation of the Registrant (previously filed in the Company's Current Report on Form 8-K dated October 7, 2019).
3.2*	Amended and Restated Bylaws of the Registrant (previously filed in the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020).
4.1*	Form of Indenture (previously filed with the Registration Statement on Form S-3 filed on November 12, 2020).
4.2†	Form of Debt Security
4.3†	Form(s) of Rights Agreement(s) (including form(s) of Rights).
4.4*	Specimen Common Stock Certificate, \$0.001 par value per share, of the Registrant (previously filed in the Company's Registration Statement on Form S-1, Registration No. 333-233662).
4.5†	Form of Certificate of Designation of Preferred Stock.
4.6†	Form of Warrant Agreement and Warrant Certificate.
4.7†	Form of Certificate for Preferred Stock.
4.8*	Amended and Restated Registration Rights Agreement (previously filed in the Company's Registration Statement on Form S-1, Registration No. 333-233662).
5.1	Opinion of Sidley Austin LLP.
5.2*	Opinion of Sidley Austin LLP (previously filed with the Registration Statement on Form S-3 filed on November 12, 2020).
23.1	Consent of Sidley Austin LLP (included in Exhibit 5.1 and Exhibit 5.2).
23.2	Consent of Ernst & Young LLP.
23.3	Consent of Ernst & Young AB.
24.1*	Power of Attorney.
25.1††	Statement of Eligibility of Trustee on Form T-1.

* Previously filed.

† To be filed by amendment or as exhibit(s) to a Current Report of the Registrant on Form 8-K and incorporated herein by reference, as applicable.

†† To be filed pursuant to Section 305(b)(2) of the U.S. Trust Indenture Act of 1939, as applicable.

Item 17. Undertakings

(a) 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 this registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that subparagraphs (i), (ii) and (iii) 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 this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of 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.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
 - (i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities:

The undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or their securities provided by or on behalf of the undersigned Registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

(b) The undersigned Registrant hereby further undertakes that, for the purposes of determining any liability under the Securities Act, each filing of the annual reports of the Registrant pursuant to Section 13(a) or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement, if any, shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) 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 provisions described under Item 15 of this registration statement, or otherwise, the Registrant has been advised that in the opinion of the 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 such the Securities Act and will be governed by the final adjudication of such issue.

(d) The undersigned Registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and
- (2) For purposes of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus 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.

The undersigned Registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

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-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Boston, State of Massachusetts, on November 24, 2020.

APREA THERAPEUTICS, INC.

By: /s/ Christian S. Schade

Christian S. Schade

Chairman, Chief Executive Officer and Director
(Principal Executive Officer)

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated on the date indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Christian S. Schade</u> Christian S. Schade	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	November 24, 2020
<u>/s/ Scott M. Coiante</u> Scott M. Coiante	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	November 24, 2020
<u>*</u> Johan Christenson, M.D., Ph.D.	Director	November 24, 2020
<u>*</u> John B. Henneman III	Director	November 24, 2020
<u>*</u> Michael A. Kelly	Director	November 24, 2020
<u>*</u> Fouad Namouni, M.D.	Director	November 24, 2020
<u>*</u> Richard Peters, M.D., Ph.D.	Director	November 24, 2020
<u>*</u> Bernd R. Seizinger, M.D., Ph.D.	Director	November 24, 2020
<u>* By: /s/ Scott M. Coiante</u> Scott M. Coiante Attorney-in-fact		



SIDLEY AUSTIN LLP
 787 SEVENTH AVENUE
 NEW YORK, NY 10019
 +1 212 839 5300
 +1 212 839 5599 FAX

AMERICA • ASIA PACIFIC • EUROPE

November 24, 2020

Aprea Therapeutics, Inc.
 535 Boylston Street
 Boston, MA 02116

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We refer to the Registration Statement on Form S-3 (the "Registration Statement") being filed by Aprea Therapeutics, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Securities Act"), on November 12, 2020, relating to the registration of up to an aggregate total offering price of \$350,000,000 of:

- (a) shares of the Company's common stock, \$0.001 par value per share (the "Common Stock");
- (b) shares of the Company's preferred stock, \$0.001 par value per share (the "Preferred Stock");
- (c) warrants to purchase Common Stock, Preferred Stock or Debt Securities (as defined below) (the "Warrants");
- (d) debt securities of the Company (the "Debt Securities");
- (e) rights to purchase Common Stock, Preferred Stock, Debt Securities or Units (as defined below) (the "Rights"); and
- (f) units (the "Units"), each consisting of two or more types of the securities listed in clauses (a) through (e) above.

The Registration Statement also relates to the offering from time to time by certain selling securityholders, as described in the Registration Statement, of up to 500,000 shares of Common Stock.

The Common Stock, the Preferred Stock, the Warrants, the Debt Securities, the Rights and the Units are collectively referred to herein as the "Securities."

Unless otherwise specified in the applicable prospectus supplement:

- (1) the Debt Securities will be issued under an indenture (the "Indenture") to be entered into between the Company and a trustee (the "Trustee");
- (2) the Warrants will be issued under a warrant agreement (the "Warrant Agreement") to be entered into between the Company and a warrant agent (the "Warrant Agent");
- (3) any Rights will be issued under a rights agreement (the "Rights Agreement") to be entered into between the Company and a rights agent (the "Rights Agent"); and
- (4) the Units will be issued pursuant to one or more unit agreements (each, a "Unit Agreement") to be entered into between the Company and a unit agent (each, a "Unit Agent");

in each case substantially in the form that has been or will be filed as one or more exhibits to the Registration Statement.

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

Sidley Austin (NY) LLP is a Delaware limited liability partnership doing business as Sidley Austin LLP and practicing in affiliation with other Sidley Austin partnerships.

We have examined the Registration Statement, the exhibits thereto, the certificate of incorporation of the Company, as amended to the date hereof (the “Charter”), the bylaws of the Company, as amended to the date hereof (the “Bylaws”), and the resolutions (the “Resolutions”) adopted by the board of directors of the Company (the “Board”) relating to the Registration Statement. We have also examined originals, or copies of originals certified to our satisfaction, of such agreements, documents, certificates and statements of the Company and others, 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 and subject to the foregoing and the other limitations, qualifications and assumptions set forth herein, we are of the opinion that:

1. With respect to an offering of shares of Common Stock covered by the Registration Statement, (A) in the case of newly-issued shares, such shares of Common Stock will be validly issued, fully paid and nonassessable, when: (i) the Registration Statement, as finally amended (including any necessary post-effective amendments), shall have become effective under the Securities Act; (ii) a prospectus supplement with respect to the sale of such shares of Common Stock, if any shall be required, shall have been filed with the SEC in compliance with the Securities Act and the rules and regulations thereunder; (iii) the Board or a duly authorized committee thereof shall have duly adopted final resolutions in conformity with the Charter, the Bylaws and the Resolutions authorizing the issuance and sale of such shares of Common Stock; and (iv) certificates representing such shares of Common Stock shall have been duly executed, countersigned and registered and duly delivered in accordance with the applicable definitive purchase, underwriting or similar agreement upon payment of the agreed consideration therefor in an amount not less than the aggregate par value thereof or, if any such shares of Common Stock are to be issued in uncertificated form, the Company’s books shall reflect the issuance of such shares of Common Stock in accordance with the applicable definitive purchase, underwriting or similar agreement upon payment of the agreed consideration therefor in an amount not less than the aggregate par value thereof, and (B) in the case of the 500,000 shares of Common Stock to be sold by certain selling securityholders, such shares are validly issued, fully paid and nonassessable.

2. The issuance and sale of each series of Preferred Stock covered by the Registration Statement will be duly authorized, and each share of such series of Preferred Stock will be validly issued, fully paid and nonassessable, when: (i) the Registration Statement, as finally amended (including any necessary post-effective amendments), shall have become effective under the Securities Act; (ii) a prospectus supplement with respect to the sale of such series of Preferred Stock shall have been filed with the SEC in compliance with the Securities Act and the rules and regulations thereunder; (iii) the Board or a duly authorized committee thereof shall have duly adopted final resolutions in conformity with the Charter, the Bylaws and the Resolutions establishing the designations, preferences, rights, qualifications, limitations or restrictions of such series of Preferred Stock and authorizing the issuance and sale of such series of Preferred Stock; (iv) the Company shall have filed with the Secretary of State of the State of Delaware a Certificate of Designations with respect to such series of Preferred Stock in accordance with the General Corporation Law of the State of Delaware (the “DGCL”) and in conformity with the Charter and such final resolutions; and (v) certificates representing such series of Preferred Stock shall have been duly executed, countersigned and registered and duly delivered in accordance with the applicable definitive purchase, underwriting or similar agreement to the purchasers thereof against payment of the agreed consideration therefor in an amount not less than the aggregate par value thereof or, if any shares of such series of Preferred Stock are to be issued in uncertificated form, the Company’s books shall reflect the issuance of such shares in accordance with the applicable definitive purchase, underwriting or similar agreement upon payment of the agreed consideration therefor in an amount not less than the aggregate par value thereof.

3. Each issue of Warrants covered by the Registration Statement will constitute valid and binding obligations of the Company when: (i) the Registration Statement, as finally amended (including any necessary post-effective amendments), shall have become effective under the Securities Act; (ii) a prospectus supplement with respect to such issue of Warrants and the Common Stock, Preferred Stock or Debt Securities issuable upon exercise of such Warrants shall have been filed with the SEC in compliance with the Securities Act and the rules and regulations thereunder; (iii) a Warrant Agreement relating to such issue of Warrants shall have been duly authorized, executed and delivered by the Company and duly executed and delivered by the Warrant Agent named in the Warrant Agreement; (iv) the Board or a duly authorized committee thereof shall have duly adopted final resolutions in conformity with the Charter, the Bylaws and the Resolutions authorizing the execution and delivery of the Warrant Agreement and the issuance and sale of such issue of Warrants; (v) if such Warrants are exercisable for Common Stock, the actions described in paragraph 1 above shall have been taken; (vi) if such Warrants are exercisable for Preferred Stock, the actions described in paragraph 2 above shall have been taken; (vii) if such Warrants are exercisable for Debt Securities, the actions described in paragraph 4 below shall have been taken and (viii) certificates representing such issue of Warrants shall have been duly executed, countersigned and issued in accordance with such Warrant Agreement and shall have been duly delivered in accordance with the applicable definitive purchase, underwriting or similar agreement to the purchasers thereof against payment of the agreed consideration therefor.

4. The Debt Securities of each series covered by the Registration Statement will constitute valid and binding obligations of the Company when: (i) the Registration Statement, as finally amended (including any necessary post-effective amendments), shall have become effective under the Securities Act and the Indenture (including any necessary supplemental indenture) shall have been qualified under the Trust Indenture Act of 1939, as amended (the “TIA”); (ii) a prospectus supplement with respect to such series of Debt Securities shall have been filed with the SEC in compliance with the Securities Act and the rules and regulations thereunder; (iii) the Indenture shall have been duly authorized, executed and delivered by the Company and the Trustee; (iv) all necessary corporate action shall have been taken by the Company to authorize the form, terms, execution, delivery, performance, issuance and sale of such series of Debt Securities as contemplated by the Registration Statement, the prospectus supplement relating to such Debt Securities and the Indenture and to authorize the execution, delivery and performance of a supplemental indenture or officers’ certificate establishing the form and terms of such series of Debt Securities as contemplated by the Indenture; (v) a supplemental indenture or officers’ certificate establishing the form and terms of such series of Debt Securities shall have been duly executed and delivered by the Company and the Trustee (in the case of such a supplemental indenture) or by duly authorized officers of the Company (in the case of such an officers’ certificate), in each case in accordance with the provisions of the Charter, the Bylaws, final resolutions of the Board or a duly authorized committee thereof and the Indenture; and (vi) the certificates evidencing the Debt Securities of such series shall have been duly executed and delivered by the Company, authenticated by the Trustee and issued, all in accordance with the Charter, the Bylaws, final resolutions of the Board or a duly authorized committee thereof, the Indenture and the supplemental indenture or officers’ certificate, as the case may be, establishing the form and terms of the Debt Securities of such series, and shall have been duly delivered in accordance with the applicable definitive purchase, underwriting or similar agreement to the purchasers thereof against payment of the agreed consideration therefor.

5. With respect to an offering of Rights covered by the Registration Statement, such Rights will constitute valid and binding obligations of the Company when: (i) the Registration Statement, as finally amended (including any necessary post-effective amendments), shall have become effective under the Securities Act; (ii) a prospectus supplement with respect to such Rights and the Common Stock, Preferred Stock, Debt Securities or Units, as the case may be, issuable upon exercise of such Rights shall have been filed with the SEC in compliance with the Securities Act and the rules and regulations thereunder; (iii) a Rights Agreement relating to such Rights shall have been duly authorized, executed and delivered by the Company and duly executed and delivered by the Rights Agent named in the Rights Agreement; (iv) the Board or a duly authorized committee thereof shall have duly adopted final resolutions in conformity with the Charter, the Bylaws and the Resolutions authorizing the execution and delivery of the Rights Agreement and the execution, delivery, issuance and sale of such Rights; (v) if such Rights relate to the issuance and sale of Common Stock, the actions described in paragraph 1 above shall have been taken; (vi) if such Rights relate to the issuance and sale of Preferred Stock, the actions described in paragraph 2 above shall have been taken; (vii) if such Rights relate to the issuance and sale of Debt Securities, the actions described in paragraph 4 above shall have been taken; (viii) if such Rights relate to the issuance and sale of Units, the actions described in paragraph 6 below shall have been taken; and (ix) certificates representing such Rights shall have been duly executed, countersigned and registered in accordance with the Rights Agreement and shall have been duly delivered to the purchasers thereof in accordance with the Rights Agreement against payment of the agreed consideration therefor.

6. With respect to an offering of Units covered by the Registration Statement, such Units will constitute valid and binding obligations of the Company when: (i) the Registration Statement, as finally amended (including any necessary post-effective amendments), shall have become effective under the Securities Act; (ii) a prospectus supplement with respect to such Units and the Common Stock, Preferred Stock, Debt Securities, Warrants or Rights, as the case may be, included as a component of such Units shall have been filed with the SEC in compliance with the Securities Act and the rules and regulations thereunder; (iii) an Unit Agreement relating to such issue of Units shall have been duly authorized, executed and delivered by the Company and duly executed and delivered by the Unit Agent named in the Unit Agreement, (iv) the Board or a duly authorized committee thereof shall have duly adopted final resolutions in conformity with the Charter, the Bylaws and the Resolutions authorizing the execution and delivery of the Units Agreement and the execution, delivery, issuance and sale of such Units; (v) if such Units relate to the issuance and sale of Common Stock, the actions described in paragraph 1 above shall have been taken; (vi) if such Units relate to the issuance and sale of Preferred Stock, the actions described in paragraph 2 above shall have been taken; (vii) if such Units relate to the issuance and sale of Warrants, the actions described in paragraph 3 above shall have been taken; (viii) if such Units relate to the issuance and sale of Debt Securities, the actions described in paragraph 4 above shall have been taken; (ix) if such Units relate to the issuance and sale of Rights, the actions described in paragraph 5 above shall have been taken; and (x) certificates representing such Units shall have been duly executed, countersigned and registered and shall have been duly delivered to the purchasers thereof in accordance with the applicable definitive purchase, underwriting or similar agreement against payment of the agreed consideration therefor.

Our opinions are subject to bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, fraudulent transfer and other similar laws relating to or affecting creditors' rights generally and to general equitable principles (regardless of whether considered in a proceeding in equity or at law), including concepts of commercial reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief. Our opinion is also subject to (i) provisions of law which may require that a judgment for money damages rendered by a court in the United States of America be expressed only in United States dollars, (ii) requirements that a claim with respect to any Debt Securities or other obligations that are denominated or payable other than in United States dollars (or a judgment denominated or payable other than in United States dollars in respect of such claim) be converted into United States dollars at a rate of exchange prevailing on a date determined pursuant to applicable law and (iii) governmental authority to limit, delay or prohibit the making of payments outside of the United States of America or in a foreign currency.

For the purposes of this letter, we have assumed that, at the time of the issuance, sale and delivery of any of the Securities:

(i) the Securities being offered will be issued and sold as contemplated in the Registration Statement and the prospectus supplement relating thereto;

(ii) the execution, delivery and performance by the Company of each Indenture, each Warrant Agreement, each Rights Agreement and each Unit Agreement, as applicable, and the issuance sale and delivery of the Securities will not (A) contravene or violate the Charter or Bylaws, (B) violate any law, rule or regulation applicable to the Company, (C) result in a default under or breach of any agreement or instrument binding upon the Company or any order, judgment or decree of any court or governmental authority applicable to the Company, or (D) require any authorization, approval or other action by, or notice to or filing with, any court or governmental authority (other than such authorizations, approvals, actions, notices or filings which shall have been obtained or made, as the case may be, and which shall be in full force and effect);

(iii) the authorization thereof by the Company will not have been modified or rescinded, and there will not have occurred any change in law affecting the validity, legally binding character or enforceability thereof; and

(iv) the Charter and the Bylaws, each as currently in effect, will not have been modified or amended and will be in full force and effect.

We have further assumed that each Warrant Agreement, each Rights Agreement, each Unit Agreement, each Warrant, each Right, each Unit, each Indenture, each indenture supplement to the Indenture and each Debt Security will be governed by the laws of the State of New York.

With respect to each instrument or agreement referred to in or otherwise relevant to the opinions set forth herein (each, an "Instrument"), we have assumed, to the extent relevant to the opinions set forth herein, that (i) each party to such Instrument (if not a natural person) was duly organized or formed, as the case may be, and was at all relevant times and is validly existing and in good standing under the laws of its jurisdiction of organization or formation, as the case may be, and had at all relevant times and has full right, power and authority to execute, deliver and perform its obligations under such Instrument; (ii) such Instrument has been duly authorized, executed and delivered by each party thereto; and (iii) such Instrument was at all relevant times and is a valid, binding and enforceable agreement or obligation, as the case may be, of, each party thereto.

This opinion letter is limited to the DGCL and the laws of the State of New York (excluding the securities laws of the State of New York). 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 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/ Sidely Austin LLP

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” in this Amendment No. 1 to Registration Statement (Form S-3) and related Prospectus of Aprea Therapeutics, Inc, for the registration of its shares of common stock and to the incorporation by reference therein 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 24, 2020

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” in the Amendment No. 1 to Registration Statement (Form S-3) and related Prospectus of Aprea Therapeutics, Inc. for the registration of shares of its common stock, preferred stock, warrants, debt securities, rights and units and to the incorporation by reference therein 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 24, 2020
