

PROSPECTUS SUPPLEMENT
(To prospectus dated November 30, 2020)



1,050,000 Shares of Common Stock

We are offering 1,050,000 shares of our common stock.

Our common stock is listed on the Nasdaq Capital Market under the symbol "APRE." On February 23, 2023, the last reported sale price of the common stock on the Nasdaq Capital Market was \$5.05 per share.

Investing in any of our securities involves a high degree of risk. See the "Risk Factors" section beginning on page S-5 of this prospectus supplement and page 6 of the accompanying prospectus, as well as our other filings that are incorporated by reference into this prospectus supplement and the accompanying prospectus.

	Per Share	Total
Public offering price	\$ 5.25	\$ 5,512,500.00
Underwriting discounts and commissions ⁽¹⁾	\$ 0.3675	\$ 385,785.00
Proceeds to us, before expenses	\$ 4.8825	\$ 5,126,625.00

(1) We refer you to the section entitled "Underwriting" beginning on page S-15 of this prospectus supplement for additional information regarding total underwriter compensation, less underwriting discounts and commissions. If the underwriter's exercise its option in full, the total underwriting discounts and commissions payable by us will be \$443,756.25, and the total proceeds to us, before expenses will be \$5,895,618.75.

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 supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

We have granted the underwriter the right to purchase up to 157,500 additional shares of common stock. The underwriter can exercise this right at any time within 30 days after the offering.

The underwriter expects to deliver the shares of common stock to investors on or about February 27, 2023.

Maxim Group LLC

This prospectus supplement is dated February 22, 2023.

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

ABOUT THIS PROSPECTUS SUPPLEMENT	S-1
PROSPECTUS SUPPLEMENT SUMMARY	S-2
THE OFFERING	S-4
RISK FACTORS	S-5
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	S-8
USE OF PROCEEDS	S-10
DILUTION	S-12
CAPITALIZATION	S-13
DESCRIPTION OF SECURITIES WE ARE OFFERING	S-14
UNDERWRITING	S-15
WHERE YOU CAN FIND MORE INFORMATION	S-20
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE	S-21
LEGAL MATTERS	S-22
EXPERTS	S-23

PROSPECTUS

ABOUT THIS PROSPECTUS	3
MARKET DATA	3
PROSPECTUS SUMMARY	4
THE OFFERING	5
RISK FACTORS	6
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	8
USE OF PROCEEDS	9
DILUTION	10
DESCRIPTION OF CAPITAL STOCK	11
PLAN OF DISTRIBUTION	14
LEGAL MATTERS	15
EXPERTS	15
WHERE YOU CAN FIND MORE INFORMATION	16
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	16

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a “shelf” registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process.

This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part, the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer only to the “prospectus,” we are referring to both parts, combined. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference herein or therein that we filed with the SEC before the date of this prospectus supplement, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference herein and therein. You should read this prospectus supplement and the accompanying prospectus, including the information incorporated by reference herein and therein.

You should rely only on the information that we have included or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus we may authorize to be delivered or made available to you. We have not, and the underwriter has not, authorized anyone to give any information or to make any representation other than those contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or any free writing prospectus we may authorize to be delivered or made available to you. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor does this prospectus supplement or the accompanying prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should not assume that the information contained in this prospectus supplement or the accompanying prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference herein or therein is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus supplement or accompanying prospectus is delivered, or securities are sold, on a later date.

This prospectus supplement contains or incorporates by reference summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been or will be filed or have been or will be incorporated by reference as exhibits to the registration statement of which this prospectus supplement forms apart, and you may obtain copies of those documents as described in this prospectus supplement under the heading “*Where You Can Find More Information.*”

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference into this prospectus supplement or the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless otherwise stated in this prospectus, or the context otherwise requires, references to the “Company,” “we,” “us” or “our” refer specifically to Aprea Therapeutics, Inc. and its consolidated subsidiaries. When we refer to “you,” we mean the potential holders of our securities. Capitalized terms used, but not defined, in this prospectus supplement are defined in the accompanying prospectus.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information you should consider before investing in our securities. Before making an investment decision, to fully understand this offering and its consequences to you, you should carefully read this entire prospectus supplement and the accompanying prospectus, including “Risk Factors” beginning on page S-5 of this prospectus supplement and the financial statements and related notes and the other information that we incorporate by reference into this prospectus supplement.

Overview

We are a biopharmaceutical company focused on developing novel synthetic lethality-based cancer therapeutics that target DNA damage response (DDR) pathways. Our approach is built upon a platform of integrated discovery technologies to enrich our pipeline with novel targets in synthetic lethality and cancer treatment. Together with our expertise in small molecule drug discovery, we are applying the capabilities of our discovery platform to the development of new precision oncology therapies and the identification of patient populations most likely to benefit.

On May 16, 2022 we acquired Atrin Pharmaceuticals Inc., or Atrin, a privately held company focused on developing next-generation cancer therapeutics that regulate the DDR, including the ATRN-119 and ATRN-W1051 programs. Following the acquisition of the Atrin assets, the Company’s primary focus is the discovery and development of proprietary molecules targeting DDR pathways in oncology through synthetic lethality. This focus leverages Atrin’s development of a proprietary discovery platform to interrogate DDR pathways that may enable identification of both potential novel DDR targets for future development and potential biomarkers for enhanced sensitivity and patient selection in clinical trials. Our lead product candidate, which was acquired in the Atrin acquisition, is ATRN-119, a Phase 1-ready small molecule ATR inhibitor being developed for solid tumor indications.

Recent Developments

Reverse Stock Split

On November 16, 2022, we held a special meeting of stockholders (the “Special Meeting”). At the Special Meeting, our stockholders approved an amendment to our Certificate of Incorporation, as amended, to effect a reverse stock split of our issued and outstanding shares of common stock by a ratio of between one-for-three to one-for-twenty, inclusive, with the exact ratio to be set at the discretion of our board of directors (the “Board”), at any time after approval of the amendment and prior to February 28, 2023. On February 8, 2023, the Board effected a reverse stock split at a ratio of one-for-twenty, effective as of February 13, 2023 (the “Reverse Stock Split”). Unless otherwise indicated, all share numbers in this prospectus supplement, including shares of common stock and all securities convertible into, or exercisable for, shares of common stock, give effect to the Reverse Stock Split. However, documents incorporated by reference into this prospectus that were filed prior to February 13, 2023, do not give effect to the Reverse Stock Split. There can be no assurance that we will be able to regain or maintain compliance with the Nasdaq continued listing standards, even after the implementation of the Reverse Stock Split.

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 \$1.235 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 3805 Old Easton Road, Doylestown, PA 18902, and our telephone number is (617) 463-9385. Our website address is <http://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>.

The Offering

Common stock offered by us	1,050,000 shares (or 1,207,500 shares if the underwriter exercises its option purchase additional shares in full)
Common stock to be outstanding immediately after this offering	3,661,894 shares (or 3,819,394 shares if the underwriter exercises its option purchase additional shares in full)
Underwriter's Option to purchase additional shares	We have granted the underwriter an option to purchase up to an additional 157,500 shares of our common stock from us. The underwriter can exercise this option, in whole or in part, at any time within 30 days from the date of this prospectus supplement.
Offering Price	\$5.25 per share of common stock
Lock Ups	Our officers and directors and certain holders of our capital stock will enter into lock-ups restricting the transfer of shares of or relating to our capital stock for 90 days after the closing of this offering.
Use of Proceeds	We currently intend to use the net proceeds from the sale of our securities under this prospectus for the continued development of our clinical asset, ATRN-119, and our pre-clinical asset ATRN-W1051, and for general corporate purposes. See the section entitled "Use of Proceeds" on page S-10 of this prospectus supplement.
Risk Factors	Investing in our common stock involves a high degree of risk. See the "Risk Factors" section on page S-5 of this prospectus supplement and other information included or incorporated by reference into this prospectus supplement for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Nasdaq symbol	Our common stock is listed on Nasdaq under the symbol "APRE."

The number of shares of our common stock to be outstanding after this offering is based on 2,611,894 shares of our common stock outstanding as of September 30, 2022, and excludes:

- 480,325 shares of common stock issuable upon the exercise of outstanding stock options;
- 12,738 restricted stock units;
- 131,560 shares of common stock reserved for issuance pursuant to future awards under our 2019 Equity Incentive Plan, the Atrin Pharmaceuticals LLC Amended and Restated Equity Compensation 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 Equity Incentive Plan or our Employee Stock Purchase Plan pursuant to provisions thereof that automatically increase the share reserve under the plan each year; and
- 64,298 shares of common stock issuable upon conversion of our outstanding Series A Preferred Stock.

Except as otherwise indicated herein, all information in this prospectus supplement, including the number of shares that will be outstanding after this offering, gives effect to the 1 for 20 reverse stock split effected on February 13, 2023 and does not assume or give effect to the exercise of the underwriter's option to purchase 157,500 additional shares in this offering.

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should carefully consider the risks and uncertainties described below, in the accompanying prospectus, and any documents incorporated by reference herein and therein. You should also consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" included in our most recent Annual Report on Form 10-K, as revised or supplemented by our most recent Quarterly Report on Form 10-Q, each of which are on file with the SEC and are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Our business, business prospects, financial condition or operating results could be harmed by any of these risks, as well as other risks not currently known to us or that we currently consider immaterial. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Related to This Offering

You may experience future dilution as a result of future equity offerings.

We have a significant number of stock options outstanding, and, 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 at prices that may not be the same as the price per share in this offering. In the event that the outstanding options are exercised, or that we make additional issuances of common stock or other convertible or exchangeable securities, you could experience additional dilution. 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, including investors who purchase shares of common stock in this offering. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions, may be higher or lower than the price per share in this offering. As a result, purchasers of the shares we sell, as well as our existing stockholders, will experience significant dilution if we sell at prices significantly below the price at which they invested.

Resales of our common stock in the public market during this offering by our stockholders may cause the market price of our common stock to fall.

Sales of a substantial number of shares of our common stock could occur at any time. The issuance of new shares of our common stock could result in resales of our common stock by our current stockholders concerned about the potential ownership dilution of their holdings. In turn, these resales could have the effect of depressing the market price for our common stock.

We will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We currently intend to use the net proceeds from the offering of securities under this prospectus for the continued development of our clinical asset, ATRN-119, and our pre-clinical asset ATRN-W1051, and for general corporate purposes, as described in the section of this prospectus supplement entitled “*Use of Proceeds.*” We will have broad discretion in the application of the net proceeds in the category of general corporate purposes and investors will be relying on the judgment of our management regarding the application of the proceeds of this offering.

The precise amount and timing of the application of these proceeds, if any, will depend upon a number of factors, such as the timing and progress of our research and development efforts, our funding requirements and the availability and costs of other funds. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Depending on the outcome of our efforts and other unforeseen events, our plans and priorities may change and we may apply the net proceeds of this offering in different manners than we currently anticipate.

The failure by our management to apply these funds effectively could harm our business, financial condition and results of operations. Pending their use, we may invest the net proceeds from this offering in short-term, interest-bearing instruments. These investments may not yield a favorable return to our stockholders.

This offering may cause the trading price of our common stock to decrease.

The price per share, together with the number of shares of common stock we propose to issue and ultimately will issue if this offering is completed, may result in an immediate decrease in the market price of our common stock. This decrease may continue after the completion of this offering.

Risks Related to our Common Stock

We are not currently in compliance with Nasdaq’s continued listing requirements. If we are unable to comply with Nasdaq’s continued listing requirements, our common stock could be delisted, which could affect the price of our common stock and liquidity and reduce our ability to raise capital.

Our common stock is currently listed on Nasdaq. Nasdaq has established certain quantitative criteria and qualitative standards that companies must meet to remain listed for trading on this market.

On September 12, 2022, we received a written notice from the Listing Qualifications Department of Nasdaq that we are not in compliance with the minimum bid price requirements set forth in Nasdaq Listing Rule 5550(a)(2) for continued listing on Nasdaq, which requires listed securities to maintain a minimum bid price of \$1.00 per share, and Listing Rule 5810(c)(3)(A) provides that a failure to meet the minimum bid price requirement exists if the deficiency continues for a period of thirty (30) consecutive business days. We have a period of 180 calendar days from the date of the notice, or until March 13, 2023, to regain compliance under this standard. During this period, our common stock will continue to trade on Nasdaq. The written notice does not impact the listing of our common stock on Nasdaq at this time.

On February 10, 2023, we filed a Certificate of Amendment to our Certificate of Incorporation with the Secretary of State of the State of Delaware that provided for the Reverse Stock Split. The Reverse Stock Split was intended, among other reasons, to allow us to achieve the requisite increase in the market price of our common stock to be in compliance with the minimum bid price of Nasdaq. However, there can be no assurance that the price of our common stock will stay above the minimum requirements for the time period required by Nasdaq in order to regain compliance with the rule or that we will otherwise be in compliance with other Nasdaq listing criteria. It is not uncommon for the market price of a company’s common stock to decline in the period following a reverse stock split. If the market price of our common stock declines, the percentage decline may be greater than would have occurred in the absence of the Reverse Stock Split.

If we are unable to regain compliance, Nasdaq may make a determination to delist our common stock. Any delisting of our common stock could adversely affect the market liquidity of our common stock and the market price of our common stock could decrease. Furthermore, if our common stock were delisted it could adversely affect our ability to obtain financing for the continuation of our operations and our ability to attract and retain employees by means of equity compensation and/or result in the loss of confidence by investors.

There are risks associated with the Reverse Stock Split.

There are risks associated with the Reverse Stock Split and there is no assurance that:

- the market price per share of our common stock after the Reverse Stock Split will rise in proportion to the reduction in the number of shares of our common stock outstanding before the Reverse Stock Split or, if it does rise, that it will sustain the increase in the market price per share;
- the Reverse Stock Split will result in a per share price that will attract brokers and investors who do not trade in lower priced stocks;
- the Reverse Stock Split will result in a per share price that will increase our ability to attract and retain employees and other service providers and maintain the minimum stock price required for continued listing on Nasdaq; and
- the liquidity of our common stock will increase.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus (including documents incorporated by reference herein and therein) contains forward-looking statements under federal securities laws, including within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases, these forward-looking statements can be identified by the use of forward-looking terminology, including the terms “believes,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “designed,” “would,” “could,” “might,” “will,” “should,” “approximately” or, in each case, their negative or other variations thereon or comparable terminology, although not all forward-looking statements contain these words. They appear in a number of places throughout this prospectus supplement and the accompanying prospectus (including documents incorporated by reference herein and therein) and include statements regarding our current intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our planned clinical trials, including the commencement of our Phase 1 trial of ATRN-119, our planned IND-enabling studies, including for ATRN-W1051, our ongoing and planned development, prospects for commercialization, and market uptake of our potential product candidates, the strength and breadth of our intellectual property, our planned clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for our product candidates, the legal and regulatory landscape impacting our business, the degree of clinical utility of our product candidates, particularly in specific patient populations, expectations regarding clinical trial data, our development and validation of manufacturing capabilities, our results of operations, financial condition, liquidity, prospects, growth and strategies, the length of time that we will be able to continue to fund our operating expenses and capital expenditures, our expected financing needs and sources of financing, the industry in which we operate and the trends that may affect the industry or us.

By their nature, forward-looking statements involve risks and uncertainties because they relate to future events, competitive dynamics, and healthcare, regulatory and scientific developments and depend on economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. We caution you that forward-looking statements are not guarantees, or predictive, of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this prospectus supplement and the accompanying prospectus (including documents incorporated by reference herein and therein).

Some of the factors that we believe could cause actual results to differ from those anticipated or predicted include:

- our ability to continue to operate as an integrated company subsequent to our acquisition of the assets of Atrin Pharmaceuticals Inc.;
- estimates of our expenses, capital requirements and our needs for additional financing;
- business interruptions, including delays in enrollment and data collection of clinical trials, resulting from the outbreak of the novel coronavirus, COVID-19;
- the prospects of our product candidates, all of which are still in development;
- outcome and results of ongoing or future preclinical studies and clinical trials of our product candidates;
- our expectations regarding our ability to identify, discover or acquire additional suitable product candidates;
- the design of our planned clinical trials, including the sample size, trial duration, endpoint definition, event rate assumptions and eligibility criteria;
- our expectations regarding the timing of initiation of data readout from our clinical trials;
- market acceptance or commercial success of any product candidate we develop and the degree of acceptance among physicians, patients, patient advocacy groups, healthcare payors and the medical community;
- our expectations regarding competition, potential market size, the size of the patient populations for our product candidates, if approved for commercial use, and market acceptance;
- our ability to obtain regulatory approval of our product candidates, and any restrictions, limitations and/or warnings in their labels, if approved;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates;
- potential claims relating to our intellectual property and third-party intellectual property;
- the duration of our intellectual property estate that will provide protection for our product candidates;
- developments relating to our competitors and our industry;

- our sales, marketing or distribution capabilities and our ability to commercialize our product candidates, if we obtain regulatory approval;
- current and future agreements with third parties in connection with conducting clinical trials, as well as the manufacturing of our product candidates;
- our expectations regarding the ability of our current contract manufacturing partners to produce our product candidates in the quantities and timeframe that we will require;
- our expectations regarding our future costs of goods;
- 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;
- the impact of our recently effected Reverse Stock Split;
- our financial performance;
- 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;
- our ability to maintain our listing on Nasdaq (including that we are not currently in compliance with Nasdaq’s continued listing requirements); and
- other risks and uncertainties, including those listed under “*Risk Factors*”, above.

Any forward-looking statements in this prospectus supplement and the accompanying prospectus (including documents incorporated by reference herein and therein) reflect our current views with respect 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. 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 estimate the net proceeds to us from this offering will be approximately \$4.8 million (or approximately \$5.5 million if the underwriter's option to purchase additional shares is exercised in full), after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from the offering of securities under this prospectus for the continued development of our clinical asset, ATRN-119, and our pre-clinical asset ATRN-W1051, and for general corporate purposes.

These expected uses represent our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, and any unforeseen cash needs. As a result, our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds from this offering. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors after considering our financial condition, results of operations, capital requirements, business prospects and other factors the board of directors deems relevant, and subject to the restrictions contained in any future financing instruments.

DILUTION

If you purchase our common stock (or equivalent) in this offering, your interest will be diluted to the extent of the difference between the public offering price per share of common stock and the net tangible book value per share after giving effect this offering. We calculate net tangible book value per share by dividing our net tangible assets (tangible assets less total liabilities) by the number of shares of our common stock issued and outstanding as of September 30, 2022.

After giving effect to the issuance and sale by us of 1,050,000 shares of common stock at a public offering price of \$5.25 per share in this offering, less the underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2022 would have been approximately \$31.4 million, or approximately \$8.58 per share. This amount represents an immediate decrease in net tangible book value of \$1.61 per share to our existing stockholders and an immediate increase in as adjusted net tangible book value of approximately \$3.33 per share to new investors purchasing shares of common stock in this offering.

Public offering price per share of our common stock		\$ 5.25
Net tangible book value per share as of September 30, 2022	\$ 10.19	
Decrease in net tangible book value per share of our common stock attributable to this offering	\$ (1.61)	
As adjusted net tangible book value per share of our common stock as of September 30, 2022, after giving effect to this offering		\$ 8.58
Increase in net tangible book value per share to new investors purchasing shares of our common stock in this offering		\$ 3.33

- (1) The above discussion and table are based on 2,611,894 shares of our common stock outstanding as of September 30, 2022 and gives effect to the Reverse Stock Split. The number of shares outstanding as of September 30, 2022 excludes, as of such date:
- 480,325 shares of common stock issuable upon the exercise of outstanding stock options;
 - 12,738 restricted stock units;
 - 131,560 shares of common stock reserved for issuance pursuant to future awards under our 2019 Equity Incentive Plan, the Atrin Pharmaceuticals LLC Amended and Restated Equity Compensation 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 Equity Incentive Plan or our Employee Stock Purchase Plan pursuant to provisions thereof that automatically increase the share reserve under the plan each year; and
 - 64,298 shares of common stock issuable upon conversion of our outstanding Series A Preferred Stock.

The above table does not assume or give effect to the exercise of the underwriter's option to purchase 157,500 additional shares in this offering. Furthermore, to the extent outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, you will experience further dilution.

CAPITALIZATION

The following table sets forth our cash and capitalization as of September 30, 2022 on:

- an actual basis;
- a pro forma to give retroactive effect to the Reverse Stock Split; and
- a pro forma as adjusted basis, to give effect to the sale of shares of common stock in this offering at the public offering price of \$5.25 per share (assuming the sale of the maximum offering amount), and after deducting commissions and estimated offering expenses payable by us.

	At September 30, 2022		
	Actual (unaudited)	Pro Forma (unaudited)	As Adjusted (unaudited) ⁽¹⁾
Cash	\$ 33,112,601	33,112,601	38,658,220
Shares of Series A convertible Preferred Stock, \$0.001 par value, 40,000,000 shares authorized and 128,597, 128,597 and 128,597 shares outstanding, actual, pro forma and pro forma as adjusted as of September 30, 2022	2,998,537	2,998,537	2,998,537
Stockholders' equity:			
Shares of Common stock, \$0.001 par value, 400,000,000 shares authorized and 52,237,885, 2,611,894 and 3,819,394 shares outstanding, actual, pro forma and pro forma as adjusted as of September 30, 2022	52,237	2,612	3,819
Additional paid-in capital	328,167,899	328,217,524	333,761,936
Accumulated other comprehensive loss	(10,240,645)	(10,240,645)	(10,240,645)
Accumulated deficit	(291,354,263)	(291,354,263)	(291,354,263)
Total stockholders' equity	26,625,228	26,625,228	32,170,847
Total capitalization	\$ 29,623,765	29,623,765	35,169,384

(1) See note (1) to Dilution table above which is incorporated by reference herein.

DESCRIPTION OF SECURITIES WE ARE OFFERING

Common Stock

The material terms and provisions of our common stock and each other class of our securities that qualifies or limits our common stock are described under the caption "Description of Capital Stock" starting on page 11 of the accompanying prospectus.

UNDERWRITING

We are offering the shares of common stock described in this prospectus supplement and the accompanying prospectus through the underwriters listed below. Maxim Group LLC is acting as the sole book-running manager of this offering and representative of each of the underwriters named below. The underwriters named below have agreed to buy, subject to the terms of the underwriting agreement, the number of securities listed opposite its name below. The underwriters are committed to purchase and pay for all of the securities if any are purchased, other than those securities covered by the over-allotment option described below.

Underwriter	Number of shares of Common Stock
Maxim Group LLC	1,050,000
Total	1,050,000

The underwriters have advised us that they propose to offer the shares of common stock to the public at a price of \$5.25 per share. The underwriters propose to offer the shares of common stock to certain dealers at the same price less a concession of not more than \$0.1875 per share. After the offering, these figures may be changed by the underwriters.

Over-allotment Option

We have granted to the underwriters an option exercisable not later than 30 days after the date of this prospectus to purchase up to an additional 157,500 shares of common stock. The underwriters may exercise the option solely to cover over-allotments, if any, made in connection with this offering. To the extent the underwriters exercise the option, the underwriters will become obligated, subject to certain conditions, to purchase the shares of common stock for which they exercise the option.

Underwriting Discounts and Expenses

The following table summarizes the underwriting discount and commission to be paid to the underwriters by us. These amounts are shown assuming both no exercise and full exercise of the over-allotment option.

	Per Share (1)	Total	Total with Full Exercise of Over-allotment
Public offering price	\$ 5.25	\$ 5,512,500.00	\$ 6,339,375.00
Underwriting discount to be paid to the underwriters by us	0.3675	385,875.00	443,756.25
Proceeds to us (before expenses)	4.8825	5,126,625.00	5,895,618.75

We have agreed to pay the underwriters an accountable expense allowance for certain of the underwriters' expenses relating to the offering up to a maximum aggregate amount of \$65,000, including, but not limited to, the underwriters' legal fees, fees and expenses of background checks of the Company's directors and officers, and reasonable out of pocket expenses incurred in this offering. We estimate that the total expenses of this offering, excluding underwriting discounts, will be \$0.3 million. These expenses are payable by us.

Indemnification

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriters may be required to make in respect of those liabilities.

Lock-up Agreements

We have agreed, subject to limited exceptions, for a period of 180 days after the closing of this offering and our officers and directors have agreed, subject to limited exceptions, for a period of 90 days after the closing of this offering, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of, directly or indirectly any shares of common stock or any securities convertible into or exchangeable for our common stock either owned as of the date of the underwriting agreement or thereafter acquired without the prior written consent of Maxim. Maxim may, in its sole discretion and at any time or from time to time before the termination of the lock-up period, without notice, release all or any portion of the securities subject to lock-up agreements.

Price Stabilization, Short Positions and Penalty Bids

In connection with this offering, the underwriters may engage in activities that stabilize, maintain or otherwise affect the price of our securities during and after this offering, including:

- stabilizing transactions;
- short sales;
- purchases to cover positions created by short sales;
- imposition of penalty bids; and
- syndicate covering transactions.

Stabilizing transactions consist of bids or purchases made for the purpose of preventing or retarding a decline in the market price of our shares of common stock while this offering is in progress. Stabilization transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. These transactions may also include making short sales of our shares of common stock, which involve the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering and purchasing shares of common stock on the open market to cover short positions created by short sales. Short sales may be “covered short sales,” which are short positions in an amount not greater than the underwriters’ option to purchase additional shares referred to above, or may be “naked short sales,” which are short positions in excess of that amount.

The underwriters may close out any covered short position by either exercising their option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option.

Naked short sales are short sales made in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares of common stock in the open market that could adversely affect investors who purchased in this offering.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because Maxim has repurchased shares sold by or for the account of that underwriter in stabilizing or short covering transactions.

These stabilizing transactions, short sales, purchases to cover positions created by short sales, the imposition of penalty bids and syndicate covering transactions may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result of these activities, the price of our common stock may be higher than the price that otherwise might exist in the open market. The underwriters may carry out these transactions on Nasdaq, in the over-the-counter market or otherwise. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. Neither we, nor any of the underwriters make any representation that the underwriters will engage in these stabilization transactions or that any transaction, once commenced, will not be discontinued without notice.

Electronic Distribution

This prospectus in electronic format may be made available on websites or through other online services maintained by the underwriters, or by their affiliates. Other than this prospectus in electronic format, the information on the underwriters' websites and any information contained in any other websites maintained by the underwriters is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the underwriters in their capacity as underwriters, and should not be relied upon by investors.

Other

From time to time, the underwriters and/or their affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services it has received and, may in the future receive, customary fees.

Except for the services provided in connection with this offering and other than as described below, the underwriters have not provided any investment banking or other financial services during the 180-day period preceding the date of this prospectus.

Selling Restrictions

Canada. The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31 103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33 105 Underwriting Conflicts (NI 33 105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriters conflicts of interest in connection with this offering.

European Economic Area. In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State") an offer to the public of any securities may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any securities may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall result in a requirement for the publication by us or any underwriters of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase any securities, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom. Each underwriter has represented and agreed that:

- it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the FSMA) received by it in connection with the issue or sale of the securities in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Switzerland. The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of securities.

Australia. No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (ASIC), in relation to the offering.

This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the Corporations Act) and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the securities may only be made to persons (the Exempt Investors) who are “sophisticated investors” (within the meaning of section 708(8) of the Corporations Act), “professional investors” (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the securities without disclosure to investors under Chapter 6D of the Corporations Act.

The securities applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring securities must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in the Cayman Islands. No invitation, whether directly or indirectly, may be made to the public in the Cayman Islands to subscribe for our securities.

Taiwan. The securities have not been and will not be registered with the Financial Supervisory Commission of Taiwan pursuant to relevant securities laws and regulations and may not be sold, issued or offered within Taiwan through a public offering or in circumstances which constitutes an offer within the meaning of the Securities and Exchange Act of Taiwan that requires a registration or approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering and sale of the securities in Taiwan.

Notice to Prospective Investors in Hong Kong. The contents of this prospectus have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this prospectus, you should obtain independent professional advice. Please note that (i) our shares may not be offered or sold in Hong Kong, by means of this prospectus or any document other than to “professional investors” within the meaning of Part I of Schedule 1 of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) (SFO) and any rules made thereunder, or in other circumstances which do not result in the document being a “prospectus” within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong) (CO) or which do not constitute an offer or invitation to the public for the purpose of the CO or the SFO, and (ii) no advertisement, invitation or document relating to our shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere) which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the shares which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the SFO and any rules made thereunder.

Notice to Prospective Investors in the People’s Republic of China. This prospectus may not be circulated or distributed in the PRC and the shares may not be offered or sold, and will not offer or sell to any person for re-offering or resale directly or indirectly to any resident of the PRC except pursuant to applicable laws, rules and regulations of the PRC. For the purpose of this paragraph only, the PRC does not include Taiwan and the special administrative regions of Hong Kong and Macau.

Israel. This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this document is being distributed only to, and is directed only at, and any offer of the shares is directed only at, investors listed in the first addendum, or the Addendum, to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and “qualified individuals”, each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus supplement and the accompanying prospectus form part of the registration statement on Form S-3 we filed with the SEC under the Securities Act. Whenever a reference is made in this prospectus supplement and the accompanying prospectus to a contract or other document that is an exhibit to the registration statement, the reference is only a summary and you should refer to the exhibits that are a part of the registration statement for a copy of the contract or other documents incorporated by reference. You may review a copy of the registration statement and the documents incorporated by reference herein through the SEC's website listed below.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information filed electronically with the SEC, which is available 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 connected to, our website is not incorporated by reference in this prospectus supplement or the accompanying prospectus, and you should not consider it part of this prospectus supplement or the accompanying prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus supplement and the accompanying prospectus, which 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 deemed to be part of this prospectus supplement and the accompanying prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement or the accompanying prospectus modifies or replaces that statement.

We incorporate by reference the following information or documents that we have filed with the SEC:

- Our [Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 15, 2022](#) (as amended by Amendment No. 1 to our [Annual Report on Form 10-K filed with SEC on May 2, 2022](#)).
- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022, June 30, 2022 and September 30, 2022, filed with the SEC on [May 16, 2022](#), [August 12, 2022](#) and [November 9, 2022](#), respectively.
- Our Current Reports on Form 8-K filed with the SEC on [May 17, 2022](#) (solely with respect to Items 1.01, 2.01, 3.01, 3.02, 5.02, and 5.03), [July 1, 2022](#), [July 29, 2022](#), [August 2, 2022](#), [August 19, 2022](#), [September 16, 2022](#), [November 16, 2022](#), [November 17, 2022](#), [January 9, 2023](#), [January 26, 2023](#), [January 30, 2023](#), [February 10, 2023](#), [February 13, 2023](#) (solely with respect to Item 5.03), and [February 14, 2023](#).
- Our [annual Proxy Statement on Schedule 14A relating to our annual meeting of stockholders, filed on June 10, 2022](#) (with respect to those portions incorporated by reference into our [Annual Report on Form 10-K for the year ended December 31, 2021](#)).
- The description of our common stock contained in our [Registration Statement on Form 8-A, filed with the SEC on September 30, 2019](#), and any amendment or report filed with the SEC for the purpose of updating the description.

We incorporate by reference into this prospectus supplement and accompanying prospectus all reports and other documents we subsequently file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, between the date of this prospectus supplement and the termination of the offering of the securities described in this prospectus supplement. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed "filed" with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. The reports and documents specifically listed above or filed in the future (excluding any information furnished to, rather than filed with, the SEC) are deemed to be part of this prospectus supplement and accompanying prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus supplement and the accompanying prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address:

Aprea Therapeutics, Inc.
3805 Old Easton Road
Doylestown, PA 18902
(267)-370-5219

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus supplement and the accompanying prospectus.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by DLA Piper LLP (US), Philadelphia, Pennsylvania. Ellenoff Grossman & Schole LLP, New York, New York, will pass upon certain legal matters in connection with the offering for the underwriter.

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, 2021](#), as set forth in their report thereon, which is incorporated by reference in this prospectus supplement 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.

NOVEMBER 30, 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 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 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

November 30, 2020

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	<u>3</u>
<u>MARKET DATA</u>	<u>3</u>
<u>PROSPECTUS SUMMARY</u>	<u>4</u>
<u>THE OFFERING</u>	<u>5</u>
<u>RISK FACTORS</u>	<u>6</u>
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>8</u>
<u>USE OF PROCEEDS</u>	<u>9</u>
<u>DILUTION</u>	<u>10</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>11</u>
<u>PLAN OF DISTRIBUTION</u>	<u>14</u>
<u>LEGAL MATTERS</u>	<u>15</u>
<u>EXPERTS</u>	<u>15</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>16</u>
<u>INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE</u>	<u>16</u>

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 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 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 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 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.

APREA THERAPEUTICS, INC.



PRELIMINARY PROSPECTUS

1,050,000 SHARES OF COMMON STOCK,

Maxim Group LLC

February 22, 2023
