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

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

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**APREA THERAPEUTICS, INC.**

(Exact Name of Registrant as Specified in Its Charter)

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

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

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

**02116**  
(Zip Code)

**Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan**  
(Full title of the plan)

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

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

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

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

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

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## EXPLANATORY NOTE

This Registration Statement on Form S-8 is filed by the Registrant in connection with that certain Agreement and Plan of Merger, dated as of May 16, 2022 (the “Merger Agreement”), by and among Aprea Therapeutics, Inc. (the “Registrant”), ATR Merger Sub I Inc., ATR Merger Sub II LLC, and Atrin Pharmaceuticals, Inc. (“Atrin”). Pursuant to the Merger Agreement, Atrin was merged with and into ATR Merger Sub II LLC (the “Merger”), with ATR Merger Sub II LLC surviving the Merger as a wholly-owned subsidiary of the Registrant. Upon the closing of the Merger, the Registrant assumed (i) the Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan (the “2016 Plan”) with respect to new grants under the 2016 Plan and (ii) outstanding stock options under the 2016 Plan. The assumed stock options became or will become exercisable solely to purchase shares of common stock of the Registrant, with appropriate adjustments to the number of shares into which the assumed stock options are exercisable and the exercise price of such stock options, in accordance with the terms of the Merger Agreement.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

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

The Registrant hereby incorporates by reference in this Registration Statement the following documents and information previously filed with the Securities and Exchange Commission (the “Commission”):

1. The Registrant’s [Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the Commission on March 15, 2022, as amended on Form 10-K/A, filed with the Commission on May 2, 2022;](#)
2. [The Registrant’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed with the Commission on May 16, 2022;](#)
3. [The Registrant’s Current Report filed with the Commission on May 17, 2022;](#)
4. The description of the Registrant's Common Stock contained in the Registrant's Registration Statement on [Form 8-A, filed with the Commission on September 30, 2019](#), pursuant to Section 12(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), including any amendment or report for the purpose of updating such description.

All documents subsequently filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the respective dates of filing of such documents (such documents, and the documents enumerated above, being hereinafter referred to as “Incorporated Documents”).

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

#### Item 4. Description of Securities

Not applicable.

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

Not applicable.

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

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

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

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

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

The Registrant maintains a general liability insurance policy that covers certain liabilities of its directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

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

Not applicable.

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## Item 8. Exhibits.

Exhibit No.	Description
<a href="#">4.1</a>	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the Commission on October 7, 2019)</a>
<a href="#">4.2</a>	<a href="#">Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, filed with the Commission on November 6, 2020)</a>
<a href="#">4.3*</a>	<a href="#">Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan</a>
<a href="#">4.4*</a>	<a href="#">Amendment No. 1 to the 2016 Amended and Restated Equity Compensation Plan</a>
<a href="#">5.1*</a>	<a href="#">Opinion of Sidley Austin LLP, as to the legality of the securities being registered</a>
<a href="#">23.1*</a>	<a href="#">Consent of Sidley Austin LLP (included in the opinion filed as Exhibit 5.1)</a>
<a href="#">23.2*</a>	<a href="#">Consent of Ernst &amp; Young LLP</a>
<a href="#">24.1*</a>	<a href="#">Power of Attorney (contained in signature page to this Registration Statement)</a>
<a href="#">107*</a>	<a href="#">Filing Fee Table</a>

\* Filed herewith.

## Item 9. Undertakings

(a) The Registrant hereby undertakes:

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

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

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

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

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

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

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

(b) The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boston, Commonwealth of Massachusetts, on the 3rd day of June, 2022.

### APREA THERAPEUTICS, INC.

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

## POWER OF ATTORNEY

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

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Christian S. Schade</u> Christian S. Schade	Chairman and Chief Executive Officer and Director (Principal Executive Officer)	June 3, 2022
<u>/s/ Scott M. Coiante</u> Scott M. Coiante	Senior Vice President, Chief Financial Officer and Secretary (Principal Financial and Accounting Officer)	June 3, 2022
<u>/s/ Marc Duey</u> Marc Duey	Director	June 3, 2022
<u>/s/ Oren Gilad</u> Oren Gilad	Director	June 3, 2022
<u>/s/ Michael Grissinger</u> Michael Grissinger	Director	June 3, 2022
<u>/s John B. Henneman</u> John B. Henneman III	Director	June 3, 2022
<u>/s/ Rifat Pamukcu</u> Rifat Pamukcu	Director	June 3, 2022
<u>/s Richard Peters</u> Richard Peters, M.D., Ph.D.	Director	June 3, 2022
<u>/s Bernd Seizinger</u> Bernd R. Seizinger, M.D, Ph.D.	Director	June 3, 2022

**ATRIN PHARMACEUTICALS LLC  
2016 AMENDED AND RESTATED  
EQUITY COMPENSATION PLAN**

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ATRIN PHARMACEUTICALS LLC

2016 AMENDED AND RESTATED EQUITY COMPENSATION PLAN

The purpose of the Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan (the “Plan”) is to provide (i) designated employees and officers of Atrin Pharmaceuticals LLC, a limited liability company organized under the laws of the Commonwealth of Pennsylvania (the “Company”), or its subsidiaries, (ii) non-employee members of the Board of Managers of the Company (the “Board”), and (iii) certain advisors and consultants who perform services for the Company or its subsidiaries, with the opportunity to receive grants relating to Common Units of the Company, as such term is described in the Company’s Operating Agreement, dated January 6, 2011, as amended, or any successor thereto (the “Operating Agreement”). The Company believes that the Plan will encourage the participants to contribute materially to the growth of the Company, thereby benefiting the Company, and will align the economic interests of the participants with those of the owners.

1. Administration

(a) Committee. The Plan shall be administered and interpreted by the Board or by a committee consisting of members of the Board, which shall be appointed by the Board. However, the Board shall approve and administer all grants made to non-employee members of the Board. The Board or the committee may delegate authority to one or more subcommittees, as it deems appropriate. To the extent that the Board, committee or subcommittee administers the Plan, references in the Plan to the “Committee” shall be deemed to refer to such Board, committee or subcommittee.

(b) Committee Authority. The Committee shall have the sole authority to (i) determine the individuals to whom grants shall be made under the Plan, (ii) determine the type, size and terms of the grants to be made to each such individual, (iii) determine the time when the grants will be made and the duration of any applicable exercise or restriction period, including the criteria for exercisability and the acceleration of exercisability, (iv) amend the terms of any previously issued grant, and (v) resolve any other matters arising under the Plan.

(c) Committee Determinations. The Committee shall have full power and authority to administer and interpret the Plan, to make factual determinations and to adopt or amend such rules, regulations, agreements and instruments for implementing the Plan and for the conduct of its business as the Committee deems necessary or advisable, in its sole discretion. The Committee’s interpretations of the Plan and all determinations made by the Committee pursuant to the powers vested in it hereunder shall be conclusive and binding on all persons having any interest in the Plan or in any awards granted hereunder. All powers of the Committee shall be executed in its sole discretion, in the best interest of the Company, not as a fiduciary, and in keeping with the objectives of the Plan and need not be uniform as to similarly situated individuals.



2. Grants

Awards under the Plan may consist of grants of nonqualified options as described in Section 5 (“Options”) and Unit awards as described in Section 6 (“Unit Awards”) (collectively referred to herein as “Grants”). All Grants shall be subject to the terms and conditions set forth herein and to such other terms and conditions consistent with this Plan as the Committee deems appropriate and as are specified in writing by the Committee to the individual in a grant instrument or an amendment to the grant instrument (the “Grant Instrument”). All Grants shall be made conditional upon the Grantee’s (as defined in Section 4(b) below) acknowledgement, in writing or by acceptance of the Grant, that all decisions and determinations of the Committee shall be final and binding on the Grantee, the Grantee’s beneficiaries and any other person having or claiming an interest under such Grant. The Committee shall approve the form and provisions of each Grant Instrument. Grants under a particular Section of the Plan need not be uniform as among the Grantees.

3. Units Subject to the Plan

(a) Units Authorized. Subject to adjustment as described below, the aggregate number of Common Units of the Company (the “Units”) that may be issued or transferred under the Plan is 826,685 Units.

(b) Determination of Authorized Units. The Units may be authorized but unissued Units or reacquired Units. If and to the extent Options granted under the Plan terminate, expire, or are canceled, forfeited, exchanged or surrendered without having been exercised, or if any Unit Awards are forfeited, the Units subject to such Grants shall again be available for purposes of the Plan.

(c) Adjustments. If there is any change in the number or kind of Units outstanding by reason of (i) a distribution, spinoff, split of Units, reverse split of Units, recapitalization, or combination or exchange of Units, (ii) a merger, reorganization or consolidation, (iii) a reclassification, or (iv) any other extraordinary or unusual event affecting the outstanding Units as a class without the Company’s receipt of consideration, or if the value of outstanding Units is substantially reduced as a result of a spinoff or the Company’s payment of an extraordinary distribution, the maximum number of Units available for Grants, the kind and number of Units covered by outstanding Grants, the kind and number of Units issued and to be issued under the Plan, and the price per Unit or applicable market value of outstanding Grants shall be equitably adjusted by the Committee, to reflect any increase or decrease in the number of, or change in the kind or value of, issued Units to preclude, to the extent practicable, the enlargement or dilution of rights and benefits under the Plan and outstanding Grants; provided, however, that any fractional Units resulting from such adjustment shall be eliminated. In addition, in the event of a Change of Control (as defined in Section 10 below), the provisions of Section 11 of the Plan shall apply. Any adjustments to outstanding Grants shall be consistent with Section 409A of the Internal Revenue Code of 1986, as amended and the regulations thereunder (the “Code”), to the extent applicable. Any adjustments determined by the Committee shall be final, binding and conclusive.

4. Eligibility for Participation

(a) Eligible Persons. All employees of the Company or any of its subsidiaries, including employees who are officers or members of the Board (“Employees”) and members of the Board who are not Employees (“Non-Employee Board Members”) shall be eligible to participate in the Plan. Advisors and consultants who perform services for the Company or any of its subsidiaries (“Key Advisors”) shall be eligible to participate in the Plan if the Key Advisors render bona fide services to the Company or its subsidiaries, the services are not in connection with the offer and sale of securities in a capital-raising transaction, and the Key Advisors do not directly or indirectly promote or maintain a market for the Company’s securities.

(b) Selection of Grantees. The Committee shall select the Employees, Non-Employee Board Members and Key Advisors to receive Grants and shall determine the number of Units subject to a particular Grant in such manner as the Committee determines. Employees, Non-Employee Board Members and Key Advisors who receive Grants under this Plan shall be referred to herein as “Grantees.”

5. Options

The Committee may grant Options to an Employee, a Non-Employee Board Member or a Key Advisor, upon such terms as the Committee deems appropriate. The following provisions are applicable to Options:

(a) Number of Units. The Committee shall determine the number of Units that will be subject to each Grant of Options to Employees, Non-Employee Board Members and Key Advisors.

(b) Type of Option and Price.

(i) All Options shall be nonqualified options, which are not intended to qualify as “incentive stock options” within the meaning of Section 422 of the Code.

(ii) The purchase price (the “Exercise Price”) of Units subject to an Option shall be determined by the Committee and shall be equal to or greater than the Fair Market Value (as defined below) of a Unit on the date the Option is granted. The “Fair Market Value” of a Unit shall be, unless the Committee determines otherwise with respect to a particular Grant, as determined by the Committee through any reasonable valuation method authorized under the Code.

(c) Option Term. The Committee shall determine the term of each Option. The term of any Option shall not exceed ten years from the date of grant.

(d) Exercisability of Options.

(i) Options shall become exercisable in accordance with such terms and conditions, consistent with the Plan, as may be determined by the Committee and specified in the Grant Instrument. The Committee may accelerate the exercisability of any or all outstanding Options at any time for any reason.

(ii) The Committee may provide in a Grant Instrument that the Grantee may elect to exercise part or all of an Option before it otherwise has become exercisable. Any Units so purchased shall be restricted Units and shall be subject to a repurchase right in favor of the Company during a specified restriction period, with the repurchase price equal to the lesser of (A) the Exercise Price or (B) the Fair Market Value of such Units at the time of repurchase, or such other restrictions as the Committee deems appropriate.

(e) Grants to Non-Exempt Employees. Notwithstanding any provision of the Plan to the contrary, Options granted to persons who are non-exempt employees under the Fair Labor Standards Act of 1938, as amended, may not be exercisable for at least six months after the date of grant (except that such Options may become exercisable, as determined by the Committee, upon the Grantee's death, Disability (as defined below) or retirement, or upon a Change of Control or other circumstances permitted by applicable regulations).

(f) Termination of Employment, Disability or Death. Except as provided below, an Option may only be exercised while the Grantee is employed by, or providing service to, the Employer (as defined below) as an Employee, Non-Employee Board Member or Key Advisor.

(i) In the event that a Grantee ceases to be employed by, or provide service to, the Employer for any reason other than on account of the Grantee's Disability, death, or on account of a termination by the Employer for Cause (as defined below), any Option which is otherwise exercisable by the Grantee shall terminate unless exercised within 90 days after the date on which the Grantee ceases to be employed by, or provide service to, the Employer (or within such other period of time as may be specified by the Committee), but in any event no later than the date of expiration of the Option term. Except as otherwise provided by the Committee, any of the Grantee's Options that are not otherwise exercisable as of the date on which the Grantee ceases to be employed by, or provide service to, the Employer shall terminate as of such date.

(ii) In the event the Grantee ceases to be employed by, or provide service to, the Employer on account of a termination by the Employer for Cause, any Option held by the Grantee shall terminate as of the date the Grantee ceases to be employed by, or provide service to, the Employer. In addition, notwithstanding any other provisions of this Section 5, if the Committee determines that the Grantee has engaged in conduct that constitutes Cause at any time while the Grantee is employed by, or providing service to, the Employer or after the Grantee's termination of employment or service, any Option held by the Grantee shall immediately terminate, and the Grantee shall automatically forfeit all Units underlying any exercised portion of an Option for which the Employer has not yet recorded in its records, upon refund by the Employer of the Exercise Price paid by the Grantee for such Units. Upon any exercise of an Option, the Employer may withhold recording the underlying Units pending resolution of an inquiry that could lead to a finding resulting in a forfeiture.

(iii) In the event the Grantee ceases to be employed by, or provide service to, the Employer on account of the Grantee's Disability, any Option which is otherwise exercisable by the Grantee shall terminate unless exercised within one year after the date on which the Grantee ceases to be employed by, or provide service to, the Employer (or within such other period of time as may be specified by the Committee), but in any event no later than the date of expiration of the Option term. Except as otherwise provided by the Committee, any of the Grantee's Options which are not otherwise exercisable as of the date on which the Grantee ceases to be employed by, or provide service to, the Employer shall terminate as of such date.

(iv) If the Grantee dies while employed by, or providing service to, the Employer or within 90 days after the date on which the Grantee ceases to be employed by, or provide service to, the Employer on account of a termination specified in Section 5(f)(i) above (or within such other period of time as may be specified by the Committee), any Option that is otherwise exercisable by the Grantee shall terminate unless exercised within one year after the date on which the Grantee ceases to be employed by, or provide service to, the Employer (or within such other period of time as may be specified by the Committee), but in any event no later than the date of expiration of the Option term. Except as otherwise provided by the Committee, any of the Grantee's Options that are not otherwise exercisable as of the date on which the Grantee ceases to be employed by, or provide service to, the Employer shall terminate as of such date.

(v) For purposes of the Plan:

(A) The term "Employer" shall mean the Company and its subsidiaries, as determined by the Committee.

(B) "Employed by, or provide service to, the Employer" shall mean employment or service as an Employee, Non-Employee Board Member or Key Advisor (so that, for purposes of exercising Options and satisfying conditions with respect to Unit Awards, a Grantee shall not be considered to have terminated employment or service until the Grantee ceases to be an Employee, Non-Employee Board Member and Key Advisor), unless the Committee determines otherwise.

(C) "Disability" shall mean a Grantee's becoming disabled within the meaning of Section 22(e)(3) of the Code, within the meaning of the Employer's long-term disability plan applicable to the Grantee, or as otherwise determined by the Committee.

(D) "Cause" shall mean, except to the extent specified otherwise by the Committee, a finding by the Committee that the Grantee has (i) breached his or her employment or service contract with the Employer, (ii) engaged in disloyalty to the Employer, including, without limitation, fraud, embezzlement, theft, commission of a felony or proven dishonesty, (iii) disclosed trade secrets or confidential information of the Employer to persons not entitled to receive such information, (iv) breached any written non-competition, non-solicitation, confidentiality or invention assignment agreement between the Grantee and the Employer or (v) engaged in such other behavior detrimental to the interests of the Employer as the Committee determines.

(g) Exercise of Options. A Grantee may exercise an Option that has become exercisable, in whole or in part, by delivering a notice of exercise to the Company with payment of the Exercise Price. Unless the Board determines otherwise, while the Company is a limited liability company, a Grantee may only exercise an Option as of December 31 and notwithstanding any provision of Section 5(f) above or any Grant Instrument evidencing an Option granted under the Plan, the vested portion of any Option held by a Grantee who ceases to be employed by, or provide service to, the Company for any reason other than on account of a termination by the Company for Cause shall remain exercisable for the longer of the applicable period specified in Section 5(f) above or the Grant Instrument evidencing such Option or until December 31 following the date the Grantee ceases to be employed by, or provide service to, the Company and if the Grantee chooses to exercise the vested portion of the Option, such exercise shall be processed as of December 31. The Grantee shall pay the Exercise Price for an Option as specified by the Committee (i) in cash, (ii) with the approval of the Committee, by delivering Units owned by the Grantee (including Units acquired in connection with the exercise of an Option, subject to such restrictions as the Committee deems appropriate) and having a Fair Market Value on the date of exercise equal to the Exercise Price or by attestation (on a form prescribed by the Committee) to ownership of Units having a Fair Market Value on the date of exercise equal to the Exercise Price, or (iii) by such other method as the Committee may approve. Units used to exercise an Option shall have been held by the Grantee for the requisite period of time to avoid adverse accounting consequences to the Company with respect to the Option. The Grantee shall pay the Exercise Price and the amount of any withholding tax due (pursuant to Section 7) at the time of exercise. In addition, with the approval of the Committee, to the extent an Option is at the time exercisable for vested Units, all or any part of that vested portion may be surrendered to the Company for an appreciation distribution payable in Units with a Fair Market Value at the time of the Option surrender equal to the dollar amount by which the then Fair Market Value of the Units subject to the surrendered portion exceeds the aggregate Exercise Price payable for those Units.

#### 6. Unit Awards

The Committee may issue or transfer Units to an Employee, Non-Employee Board Members or Key Advisor, upon such terms as the Committee deems appropriate. The following provisions are applicable to Unit Awards:

(a) General Requirements. Units issued or transferred pursuant to Unit Awards may be issued or transferred for consideration or for no consideration, may be subject to restrictions or no restrictions, as determined by the Committee and may be structured as capital interests or profits interests in the Company for tax purposes. The Committee may, but shall not be required to, establish conditions under which restrictions on Unit Awards shall lapse over a period of time or according to such other criteria as the Committee deems appropriate including, without limitation, restrictions based upon the achievement of specific performance goals. The period of time during which the Unit Awards will remain subject to restrictions will be designated in the Grant Instrument as the "Restriction Period."

(b) Number of Units. The Committee shall determine the number of Units to be issued or transferred pursuant to a Unit Award and the restrictions applicable to such Units.

(c) Requirement of Employment or Service. If the Grantee ceases to be employed by, or provide service to, the Employer during a period designated in the Grant Instrument as the Restriction Period, or if other specified conditions are not met, the Unit Award shall terminate as to all Units covered by the Unit Award as to which the restrictions have not lapsed, and those Units must be immediately returned to the Employer. The Committee may, however, provide for complete or partial exceptions to this requirement as it deems appropriate.

(d) Restrictions on Transfer. During the Restriction Period, a Grantee may not sell, assign, transfer, pledge or otherwise dispose of the Unit Awards except to a successor pursuant to Section 8.

(e) Right to Vote and Receive Distributions. Unless the Committee determines otherwise, during the Restriction Period, a Grantee shall have the right to vote Units subject to Unit Awards and to receive any distributions paid on such Units, subject to any restrictions deemed appropriate by the Committee, including, without limitation, the achievement of specific performance goals.

(f) Lapse of Restrictions. All restrictions imposed on Unit Awards shall lapse upon the expiration of the applicable Restriction Period and the satisfaction of all conditions imposed by the Committee. The Committee may determine, as to any or all Unit Awards, that the restrictions shall lapse without regard to any Restriction Period.

(g) Capital Account Revaluation. Immediately prior to the grant of any Unit Award intended to be a profits interest, the Capital Accounts (as defined in the Operating Agreement) of the existing Members (as defined in the Operating Agreement) shall be revalued to reflect their Gross Asset Values (as defined in the Operating Agreement) in accordance with the terms of the Operating Agreement, and the Capital Account associated with the Unit Award shall be zero when granted, except to the extent that the Grantee pays a purchase price with respect to the grant of such Unit Award.

(h) Treatment as a Member of the Company. Each Grantee who is granted a Unit Award intended to be a profits interest and who has timely made an election under Section 83(b) of the Code with respect to such Unit Award shall be treated as a Member of the Company for all federal, state and local tax purposes.

7. Withholding of Taxes

(a) Required Withholding. All Grants under the Plan shall be subject to applicable federal (including FICA), state and local tax withholding requirements. The Employer may require that the Grantee or other person receiving or exercising Grants pay to the Employer the amount of any federal, state or local taxes that the Employer is required to withhold with respect to such Grants, or the Employer may deduct from other wages paid by the Employer the amount of any withholding taxes due with respect to such Grants.

(b) Election to Withhold Units. If the Committee so permits, a Grantee may elect to satisfy the Employer's income tax withholding obligation with respect to a Grant by having Units withheld up to an amount that does not exceed the Grantee's minimum applicable withholding tax rate for federal (including FICA), state and local tax liabilities. The election must be in a form and manner prescribed by the Committee and may be subject to the prior approval of the Committee.

8. Transferability of Grants.

(a) Nontransferability of Grants. Except as provided below, only the Grantee may exercise rights under a Grant during the Grantee's lifetime. A Grantee may not transfer those rights except (i) by will or by the laws of descent and distribution or (ii) if permitted in any specific case by the Committee, pursuant to a domestic relations order or otherwise as permitted by the Committee. When a Grantee dies, the personal representative or other person entitled to succeed to the rights of the Grantee may exercise such rights. Any such successor must furnish proof satisfactory to the Company of his or her right to receive the Grant under the Grantee's will or under the applicable laws of descent and distribution.

(b) Transfer of Options. Notwithstanding the foregoing, the Committee may provide, in a Grant Instrument, that a Grantee may transfer Options to family members, or one or more trusts or other entities for the benefit of or owned by family members, consistent with the applicable securities laws, according to such terms as the Committee may determine; provided that the Grantee receives no consideration for the transfer of an Option and the transferred Option shall continue to be subject to the same terms and conditions as were applicable to the Option immediately before the transfer.

9. Right of First Refusal; Repurchase Right

(a) Offer. Prior to the consummation of a Public Offering (as defined in Section 18(b) below), if at any time an individual desires to sell, encumber, or otherwise dispose of Units that were distributed to him or her under this Plan and that are transferable, the individual may do so only pursuant to a bona fide written offer, and the individual shall first offer the Units to the Company by giving the Company written notice disclosing: (i) the name of the proposed transferee of the Units; (ii) the number of Units proposed to be transferred or encumbered; (iii) the proposed price; (iv) all other terms of the proposed transfer; and (v) a written copy of the proposed offer. Within 60 days after receipt of such notice, the Company shall have the option to purchase all or part of such Units at the price and on the terms described in the written notice, provided that the Company may pay such price in installments over a period not to exceed four years, at the discretion of the Committee.

(b) Sale. In the event the Company (or a member, as described below) does not exercise the option to purchase Units, as provided above, the individual shall have the right to sell, encumber, or otherwise dispose of the Units described in subsection (a) at the price and on the terms of the transfer set forth in the written notice to the Company, provided such transfer is effected within 15 days after the expiration of the option period. If the transfer is not effected within such period, the Company must again be given an option to purchase, as provided above.

(c) Assignment of Rights. The Committee, in its sole discretion, may waive the Company's right of first refusal and repurchase right under this Section 9. If the Company's right of first refusal or repurchase right is so waived, the Committee may, in its sole discretion, assign such right to the remaining members of the Company in the same proportion that each member's ownership bears to the ownership of all members of the Company, as determined by the Committee. To the extent that a member has been given such right and does not purchase his or her allotment, the other members shall have the right to purchase such allotment on the same basis.

(d) Purchase by the Company. Prior to a Public Offering, if a Grantee ceases to be employed by, or provide service to, the Employer, the Company shall have the right to purchase all or part of any Units distributed to him or her under this Plan at its then current Fair Market Value (or at such other price as may be established in the Grant Instrument); provided, however, that such repurchase shall be made in accordance with applicable law and shall be made in accordance with applicable accounting rules to avoid adverse accounting treatment.

(e) Public Offering. On and after a Public Offering, the Company shall have no further right to purchase Units under this Section 9 and the requirements of this Section 9 shall lapse and cease to be effective.

(f) Operating Agreement. Notwithstanding the provisions of this Section 9, if the Operating Agreement provides a right of first refusal or repurchase rights with respect to Units, the provisions of this Section 9 shall not apply to the extent inconsistent with the Operating Agreement, unless the Committee determines otherwise.

10. Change of Control of the Company.

(a) Definition of Change of Control. As used herein, a “Change of Control” shall be deemed to have occurred if:

Any “person” (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934 (the “Exchange Act”)) becomes a “beneficial owner” (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of equity securities in the Company representing more than 50% of the voting power of the then outstanding equity securities of the Company; provided that a Change of Control shall not be deemed to occur as a result of (A) a transaction or series of related transactions pursuant to which the Company issues securities in a bona fide sale to raise funds for operations, (B) a Public Offering or (C) a transaction in which the Company becomes a subsidiary of another company and in which the owners of the Company, immediately prior to the transaction, will beneficially own, immediately after the transaction, equity securities entitling such owners to more than 50% of all votes to which all owners of the parent company would be entitled in the election of members; or

(i) The consummation of (A) a merger or consolidation of the Company with another company where the owners of the Company, immediately prior to the merger or consolidation, will not beneficially own, immediately after the merger or consolidation, equity securities entitling such members to more than 50% of all votes to which all owners of the surviving company would be entitled in the election of members, (B) a sale or other disposition of all or substantially all of the assets of the Company, or (C) a liquidation or dissolution of the Company.

(b) Other Definition. The Committee may modify the definition of Change of Control for a particular Grant as the Committee deems appropriate.



11. Consequences of a Change of Control. Upon a Change of Control, the Committee may take one or more of the following actions with respect to any or all outstanding Grants: (i) the Committee may determine that outstanding Options shall automatically accelerate and become fully exercisable and outstanding Unit Awards shall become fully vested and the restrictions and conditions on all outstanding Unit Awards shall immediately lapse, (ii) the Committee may determine that all outstanding Options that are not exercised shall be assumed by, or replaced with comparable options by, the surviving entity (or a parent or subsidiary of the surviving entity), and Unit Awards that remain in effect after the Change of Control shall be converted to similar grants of the surviving entity (or a parent or subsidiary of the surviving entity), (iii) the Committee may require that Grantees surrender their outstanding Options in exchange for one or more payments by the Company, in cash or other property as determined by the Committee, in an amount, if any, equal to the amount by which the then Fair Market Value of the Units subject to the Grantee's unexercised Options exceeds the Exercise Price of the Options, on such terms as the Committee determines, or (iv) after giving Grantees an opportunity to exercise their outstanding Options, the Committee may terminate any or all unexercised Options at such time as the Committee deems appropriate. Such assumption, surrender or termination shall take place as of the date of the Change of Control or such other date as the Committee may specify.

12. Requirements for Issuance or Transfer of Units

(a) Operating Agreement. It shall be a condition precedent to the receipt of Units under the Plan that a Grantee execute the Company's Operating Agreement, as in effect from time to time, with respect to any Units issued or distributed pursuant to the Plan.

(b) Limitations on Issuance or Transfer of Units. No Units shall be issued or transferred in connection with any Grant hereunder unless and until all legal requirements applicable to the issuance or transfer of such Units have been complied with to the satisfaction of the Committee, including all requirements of the Company's Operating Agreement. The Committee shall have the right to condition any Grant made to any Grantee hereunder on such Grantee's undertaking in writing to comply with such restrictions on his or her subsequent disposition of such Units as the Committee shall deem necessary or advisable.

(c) Lock-Up Period. If so requested by the Company or any representative of the underwriters (the "Managing Underwriter") in connection with any underwritten offering of securities of the Company, a Grantee (including any successor or assigns) shall not sell or otherwise transfer any shares or other securities of the Company during the 30 day period preceding, and during such period as may be requested by the Managing Underwriter or the Company following, the effective date of a registration statement filed by the Company for such underwriting (the "Market Standoff Period"). In no event, however, shall such Market Standoff Period exceed 180 days following the effective date of such registration statement plus such additional period as may be requested by the Company or the Managing Underwriter to accommodate regulatory restrictions on (i) the publication or other distribution of research reports or (ii) analyst recommendations and opinions, including (without limitation) the restrictions set forth in Rule 2711(f)(4) of the Financial Industry Regulatory Authority and Rule 472(f)(4) of the New York Stock Exchange, as amended, or any similar successor rules. The Company may impose stop-transfer instructions with respect to securities subject to the foregoing restrictions until the end of such Market Standoff Period. Each Grantee (including any successor assigns) further agrees to execute such agreements as may be requested by the Company or the Managing Underwriter in connection with such underwritten offering as are consistent with this Section 12(c) or that are necessary to give further effect thereto.

13. Amendment and Termination of the Plan

(a) Amendment. The Committee may amend or terminate the Plan at any time.

(b) Termination of Plan. The Plan shall terminate on the day immediately preceding the tenth anniversary of its effective date, unless the Plan is terminated earlier by the Committee or is extended by the Committee.

(c) Termination and Amendment of Outstanding Grants. A termination or amendment of the Plan that occurs after a Grant is made shall not materially impair the rights of a Grantee unless the Grantee consents or unless the Committee acts under Section 19(b). The termination of the Plan shall not impair the power and authority of the Committee with respect to an outstanding Grant. Whether or not the Plan has terminated, an outstanding Grant may be terminated or amended under Section 19(b) or may be amended by agreement of the Company and the Grantee consistent with the Plan.

(d) Governing Document. The Plan shall be the controlling document. No other statements, representations, explanatory materials or examples, oral or written, may amend the Plan in any manner. The Plan shall be binding upon and enforceable against the Company and its successors and assigns.

14. Funding of the Plan

This Plan shall be unfunded. The Company shall not be required to establish any special or separate fund or to make any other segregation of assets to assure the payment of any Grants under this Plan. In no event shall interest be paid or accrued on any Grant, including unpaid installments of Grants.

15. Rights of Grantees

Nothing in this Plan shall entitle any Employee, Non-Employee Board Member, Key Advisor or any other person to any claim or right to be granted a Grant under this Plan. Neither this Plan nor any action taken hereunder shall be construed as giving any individual any rights to be retained by or in the employ of the Employer or any other employment rights.

16. No Fractional Units

No fractional Units shall be issued or delivered pursuant to the Plan or any Grant. The Committee shall determine whether cash, other awards or other property shall be issued or paid in lieu of such fractional Units or whether such fractional Units or any rights thereto shall be forfeited or otherwise eliminated.

17. Headings

Section headings are for reference only. In the event of a conflict between a title and the content of a Section, the content of the Section shall control.

18. Effective Date of the Plan

(a) Effective Date. The Plan shall be effective as of May 7, 2016.

(b) Public Offering. The provisions of the Plan that refer to a Public Offering shall be effective, if at all, upon the initial registration of the Company's equity securities under Section 12(g) of the Exchange Act, and shall remain effective thereafter for so long as such equity securities are so registered.

19. Miscellaneous

(a) Grants in Connection with Company Transactions and Otherwise. Nothing contained in this Plan shall be construed to (i) limit the right of the Committee to make Grants under this Plan in connection with the acquisition, by purchase, lease, merger, consolidation or otherwise, of the business or assets of any company, firm or association, including Grants to employees thereof who become employees of the Company, or for other proper company purposes, or (ii) limit the right of the Company to make other awards outside of this Plan. Without limiting the foregoing, the Committee may make a Grant to an employee of another company who becomes an employee by reason of a merger, consolidation, acquisition of securities or property, reorganization or liquidation involving the Company or any of its subsidiaries in substitution for a grant made by such company. The terms and conditions of the substitute grants may vary from the terms and conditions required by the Plan and from those of the substituted incentives. The Committee shall prescribe the provisions of the substitute grants.

(b) Compliance with Law. The Plan, the exercise of Options and the obligations of the Company to issue or transfer Units shall be subject to all applicable laws and to approvals by any governmental or regulatory agency as may be required. After a Public Offering of the Company, with respect to persons subject to Section 16 of the Exchange Act, it is the intent of the Company that the Plan and all transactions under the Plan comply with all applicable provisions of Rule 16b-3 or its successors under the Exchange Act and Section 162(m) of the Code. It is the intent of the Company that, to the extent applicable, Grants made under the Plan comply with the requirements of Section 409A of the Code and the regulations thereunder. Notwithstanding anything in the Plan or any Grant Instrument to the contrary, each Grantee shall be solely responsible for the tax consequences of Grants under the Plan, and in no event shall the Company have any responsibility or liability if a Grant does not meet any applicable requirements of Section 409A of the Code. Although the Company intends to administer the Plan to prevent taxation under Section 409A of the Code, the Company does not represent or warrant that the Plan or any Grant complies with any provision of federal, state, local or other tax authority. To the extent that any legal requirement as set forth in the Plan ceases to be required under applicable law, the Committee may determine that such Plan provision shall cease to apply. The Committee may revoke any Grant if it is contrary to law or modify a Grant or the Plan to bring a Grant or the Plan into compliance with any applicable law or regulation. The Committee may, in its sole discretion, agree to limit its authority under this Section.

(c) Employees Subject to Taxation Outside the United States. With respect to Grantees who are subject to taxation in countries other than the United States, the Committee may make Grants on such terms and conditions as the Committee deems appropriate to comply with the laws of the applicable countries, and the Committee may create such procedures, addenda and subplans and make such modifications as may be necessary or advisable to comply with such laws.

(d) Financial Statements. In the event there are at any time 2,000 or more holders of outstanding Options under the Plan or 500 or more holders of outstanding Options under the Plan that are not accredited investors, the Company shall provide to each such Option holder, at the time the outstanding Options first become held by 2,000 or 500 holders, as applicable, and at successive 6 month intervals thereafter, financial statements that meet the requirements of Rule 701(e)(4) under the Securities Act of 1933, as amended, and that are at the time of distribution not more than 180 days old. Such obligation shall continue until such time as the Company becomes subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act or (if earlier) no longer relies on the exemption from such reporting requirements provided by Rule 12h-1(g) under the Exchange Act.

20. Governing Law. The validity, construction, interpretation and effect of the Plan and Grant Instruments issued under the Plan shall be governed and construed by and determined in accordance with the laws of the Commonwealth of Pennsylvania, without giving effect to the conflict of laws provisions thereof.

## ATRIN PHARMACEUTICALS, LLC

## AMENDMENT NO. 1 TO THE 2016 AMENDED AND RESTATED EQUITY COMPENSATION PLAN

February 2, 2022

**WHEREAS**, Atrin Pharmaceuticals, LLC, a Pennsylvania limited liability company (the “Company”) maintains its 2016 Amended and Restated Equity Compensation Plan (the “**Plan**”);

**WHEREAS**, the Board of Managers of the Company (the “**Board**”) and the members of the Company have approved the Plan of Conversion whereby the Company will convert to Atrin Pharmaceuticals, Inc., a Delaware corporation (the “**Conversion**”);

**WHEREAS**, Section 3(c) of the Plan permits adjustments to the number or kind of Units (as defined in the Plan);

**WHEREAS**, the Operating Agreement (as defined in the Plan) refers to any successor agreement thereto;

**WHEREAS**, pursuant to the Conversion, the Company’s Units (as defined in the Plan) will convert to shares of common stock of Atrin Pharmaceuticals Inc.;

**WHEREAS**, pursuant to the Conversion, the Company’s Operating Agreement (as defined in the Plan) was amended and restated into that certain Stockholders’ Agreement by and among the Company and the stockholders named therein; and

**WHEREAS**, the Board has determined that pursuant to the Conversion, it is in the best interest of the Company and its Members to amend the Plan, and contingent and effective upon the consummation of the Conversion do hereby amend such Plan as follows, in accordance with the provisions of Sections 13 and 3(c) thereof.

**NOW, THEREFORE:**

1. All references to “Company” shall now refer to Atrin Pharmaceuticals Inc.
2. All references to “Units” shall be deleted and replaced and with “Shares.”
3. All references to “Common Units” shall be deleted and replaced with “Common Stock.”
4. All references to “Atrin Pharmaceuticals, LLC” shall be deleted and replaced with “Atrin Pharmaceuticals Inc.”
5. All references to “Operating Agreement” shall be deleted and replaced with “Stockholders’ Agreement by and among the Company and the stockholders named therein, dated as of February 2, 2022 (as may be amended or replaced from time to time).”

In all other respects, the Plan shall remain in full force and effect.

*[Signature Page Follows]*

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**IN WITNESS WHEREOF**, and as evidence of the adoption of the amendment set forth herein, the Company has caused this instrument to be executed as of the date first written above.

**ATRIN PHARMACEUTICALS, LLC**

By: /s/ Oren Gilad

Name: Oren Gilad

Title: Chief Executive Officer

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AMERICA • ASIA PACIFIC • EUROPE

June 3, 2022

Aprea Therapeutics, Inc.  
535 Boylston Street  
Boston, MA 02166

Re: 3,899,240 Shares of Common Stock, \$0.001 par value per share

Ladies and Gentlemen:

We refer to the Registration Statement on Form S-8 (the "Registration Statement") being filed by Aprea Therapeutics, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration of 3,899,240 shares of common stock, \$0.001 par value per share (the "Registered Shares"), of the Company which may be issued under the Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan (the "Plan").

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

We have examined the Registration Statement, the Company's amended and restated certificate of incorporation, the Company's amended and restated bylaws, the Plan and the resolutions adopted by the board of directors of the Company relating to the Registration Statement and the assumption of the Plan, and the resolutions adopted by Atrin Pharmaceuticals LLC relating to the Plan. We have also examined originals, or copies of originals certified to our satisfaction, of such agreements, documents, certificates and statements of the Company and other corporate documents and instruments, and have examined such questions of law, as we have considered relevant and necessary as a basis for this opinion letter. We have assumed the authenticity of all documents submitted to us as originals, the genuineness of all signatures, the legal capacity of all persons and the conformity with the original documents of any copies thereof submitted to us for examination. As to facts relevant to the opinions expressed herein, we have relied without independent investigation or verification upon, and assumed the accuracy and completeness of, certificates, letters and oral and written statements and representations of public officials and officers and other representatives of the Company.

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

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

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# SIDLEY

Apria Therapeutics, Inc.  
June 3, 2022  
Page 2

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

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

Very truly yours,

/s/ Sidley Austin LLP

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Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan of our report dated March 15, 2022, with respect to the consolidated financial statements of Aprea Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2021, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Iselin, New Jersey  
June 3, 2022

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## Calculation of Filing Fee Table

FORM S-8  
(Form Type)

## Aprea Therapeutics, Inc.

(Exact Name of Registrant as Specified in its Charter)

## Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered(1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee(2)
Equity(3)	Common Stock, \$0.001 par value per share	Rule 457(c) and Rule 457(h)	624,091	\$ 0.81	\$ 505,513.71	.0000927	\$ 46.86
Equity(4)	Common Stock, \$0.001 par value per share	Rule 457(c) and Rule 457(h)	3,275,149	\$ 0.71	\$ 2,325,355.79	.0000927	\$ 215.56
<b>Total Offering Amounts</b>							\$ 262.42
<b>Total Fee Offsets</b>							\$ --
<b>Net Fee Due</b>							\$ 262.42

- (1) Pursuant to Rule 416 of the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement also covers such additional and indeterminate number of securities as may become issuable because of the provisions of the Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan (the “2016 Plan”) relating to adjustments for changes resulting from a stock dividend, stock split, or similar change.
- (2) This Registration Statement on Form S-8 is filed by the Registrant in connection with that certain Agreement and Plan of Merger, dated as of May 16, 2022 (the “Merger Agreement”), by and among Aprea Therapeutics, Inc. (the “Registrant”), ATR Merger Sub I Inc., ATR Merger Sub II LLC, and Atrin Pharmaceuticals, Inc. (“Atrin”). Pursuant to the Merger Agreement, Atrin was merged with and into ATR Merger Sub II LLC (the “Merger”), with ATR Merger Sub II LLC surviving the Merger as a wholly-owned subsidiary of the Registrant. Upon the closing of the Merger, the Registrant assumed (i) the Atrin Pharmaceuticals LLC 2016 Amended and Restated Equity Compensation Plan (the “2016 Plan”) with respect to new grants under the 2016 Plan and (ii) outstanding stock options under the 2016 Plan. This Registration Statement relates to shares issuable under the 2016 Plan, including shares issued upon the exercise of assumed stock options. The Registration Fee is registering (i) 624,091 shares that will be available for grant under the Plan and (ii) 3,275,149 shares subject to assumed options.
- (3) Estimated in accordance with Rules 457(c) and (h) under the Securities Act solely for the purpose of calculating the registration fee. The price of \$0.81 per share represents the average of the high and low prices of the Common Stock as reported on the Nasdaq Global Select Market on May 27, 2022.
- (4) Estimated pursuant to Rule 457(h) under the Securities Act solely for the purpose of calculating the registration fee. The price of \$0.71 per share represents the weighted average exercise price per share of the assumed stock options.