UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT UNDER

THE SECURITIES ACT OF 1933

AN2 Therapeutics, Inc.

(Exact name of Registrant as specified in its charter)

Delaware (State or other jurisdiction of Incorporation or organization) 82-0606654 (I.R.S. Employer Identification No.)

1800 El Camino Real, Suite D Menlo Park, California 94027 (650) 331-9090 (Address of principal executive offices) (Zip code)

AN2 Therapeutics, Inc. 2017 Equity Incentive Plan AN2 Therapeutics, Inc. 2022 Equity Incentive Plan AN2 Therapeutics, Inc. 2022 Employee Stock Purchase Plan (Full titles of the plans)

Eric Easom Chief Executive Officer AN2 Therapeutics, Inc. 1800 El Camino Real, Suite D Menlo Park, California 94027 (650) 331-9090 (Name and address of agent for service) (Telephone number, including area code, of agent for service)

Copies to:

Josh Seidenfeld Sally Kay Anitha Anne Cooley LLP 3175 Hanover Street Palo Alto, California 94304 (650) 843-5000

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. \Box

PART I

INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

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

PART II

ITEM 3. INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents filed with the Commission by AN2 Therapeutics, Inc. (the "Registrant") are incorporated by reference into this Registration Statement:

(a) The Registrant's prospectus dated March 24, 2022 and filed on March 28, 2022 pursuant to Rule 424(b) under the Securities Act relating to the Registration Statements on Form S-1, as amended (File Nos. 333-263295 and 333-263840), which contains audited financial statements for the Registrant's latest fiscal year for which such statements have been filed.

(b) The description of the Registrant's common stock which is contained in a registration statement on <u>Form 8-A</u> filed on March 22, 2022 (File No. 001-41331) pursuant to Section 12(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including any amendment or report filed for the purpose of updating such description.

(c) All other reports and documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) on or 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 have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part of this Registration Statement from the date of the filing of such reports and documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein 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 subsequently filed document that also is deemed to be incorporated by reference herein 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.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act. The Registrant's amended and restated certificate of incorporation that will

be in effect upon the closing of the Registrant's initial public offering permits indemnification of the Registrant's directors, officers, employees and other agents to the maximum extent permitted by the Delaware General Corporation Law, and the Registrant's amended and restated bylaws that will be in effect upon the closing of the Registrant's initial public offering provide that the Registrant will indemnify its directors and executive officers and permit the Registrant to indemnify its other officers, employees and other agents, in each case to the maximum extent permitted by the Delaware General Corporation Law.

The Registrant has entered into indemnification agreements with its directors and officers, whereby it has agreed to indemnify its directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee or agent of the Registrant, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interest of the Registrant. At present, there is no pending litigation or proceeding involving a director or officer of the Registrant regarding which indemnification is sought, nor is the Registrant aware of any threatened litigation that may result in claims for indemnification.

The Registrant maintains insurance policies that indemnify its directors and officers against various liabilities arising under the Securities Act and the Exchange Act that might be incurred by any director or officer in his or her capacity as such.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

ITEM 8. EXHIBITS

			Incorporated by Reference		
Exhibit <u>Number</u>	Description	Schedule Form	File <u>Number</u>	<u>Exhibit</u>	Filing Date
4.1	<u>Amended and Restated Certificate of Incorporation of the Registrant, as currently in</u> <u>effect.</u>	S-1	333-263295	3.1	March 4, 2022
4.2	<u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation,</u> <u>as currently in effect.</u>	S-1/A	333-263295	3.5	March 21, 2022
4.3	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon the closing of the Registrant's initial public offering.	S-1	333-263295	3.2	March 4, 2022
4.4	Amended and Restated Bylaws of the Registrant, as currently in effect.	S-1	333-263295	3.3	March 4, 2022
4.5	<u>Form of Amended and Restated Bylaws of the Registrant, to be in effect upon the</u> <u>closing of the Registrant's initial public offering.</u>	S-1	333-263295	3.4	March 4, 2022
4.6	Form of common stock certificate of the Registrant.	S-1/A	333-263295	4.1	March 21, 2022
5.1*	Opinion of Cooley LLP.				
23.1*	Consent of Cooley LLP (included in Exhibit 5.1).				
23.2*	Consent of Independent Registered Public Accounting Firm.				

24.1* Power of Attorney (included on the signature page of this Registration Statement).

			Incorporated by Reference		
Exhibit Number	Description	Schedule Form	File <u>Number</u>	Exhibit	Filing Date
99.1	AN2 Therapeutics, Inc. 2017 Equity Incentive Plan, as amended.	S- 1	333-263295	10.1	March 4, 2022
99.2	Forms of Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise and Early Exercise Stock Purchase Agreement under the AN2				
	<u>Therapeutics, Inc. 2017 Equity Incentive Plan.</u>	S-1	333-263295	10.2	March 4, 2022
99.3	AN2 Therapeutics, Inc. 2022 Equity Incentive Plan.	S-1	333-263295	10.3	March 4, 2022
99.4	Forms of Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise under the AN2 Therapeutics, Inc. 2022 Equity Incentive Plan.	S-1	333-263295	10.4	March 4, 2022
99.5	Forms of Restricted Stock Unit Grant Notice and Award Agreement under the AN2 Therapeutics, Inc. 2022 Equity Incentive Plan.	S-1	333-263295	10.5	March 4, 2022
99.6	AN2 Therapeutics, Inc. 2022 Employee Stock Purchase Plan.	S-1	333-263295	10.6	March 4, 2022
107*	<u>Filing Fee Table.</u>				

* Filed herewith.

ITEM 9. UNDERTAKINGS

1. The Registrant hereby undertakes:

- (a) 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. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Filing Fee Tables" exhibit to the effective 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)(i) and (a)(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.

(b) 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 herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) 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.

2. 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 herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. 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.

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 Menlo Park, State of California, on March 28, 2022.

AN2 THERAPEUTICS, INC.

By: /s/ Eric Easom

Eric Easom Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Eric Easom, Lucy O. Day and Michael A. Nazak, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in their name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, 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 and necessary to be done in connection therewith, 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 his, her or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ Eric Easom Eric Easom	Chief Executive Officer and Director (<i>Principal Executive Officer</i>)	March 28, 2022
/s/ Lucy O. Day Lucy O. Day	Chief Financial Officer (Principal Financial Officer)	March 28, 2022
/s/ Michael A. Nazak Michael A. Nazak	Vice President and Controller (<i>Principal Accounting Officer</i>)	March 28, 2022
/s/ Joseph Zakrzewski Joseph Zakrzewski	Chair and Director	March 28, 2022
/s/ Kabeer Aziz Kabeer Aziz	Director	March 28, 2022
/s/ Gilbert L. Marks Gilbert L. Marks	Director	March 28, 2022
/s/ Patricia Martin Patricia (Patty) Martin	Director	March 28, 2022
/s/ Rob Readnour Rob Readnour	Director	March 28, 2022

Signature	Title	Date
/s/ Melvin Spigelman Melvin Spigelman	Director	March 28, 2022
/s/ Stephanie Wong Stephanie Wong	Director	March 28, 2022
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Josh Seidenfeld +1 650 843 5862 jseidenfeld@cooley.com

March 28, 2022

AN2 Therapeutics, Inc. 1800 El Camino Real, Suite D Menlo Park, CA 94027

Ladies and Gentlemen:

We have acted as counsel to AN2 Therapeutics, Inc., a Delaware corporation (the "*Company*"), in connection with the filing of a registration statement on Form S-8 (the "*Registration Statement*") with the Securities and Exchange Commission covering the offering of up to 6,248,408 shares (the "*Shares*") of the Company's common stock, par value \$0.00001 per share (the "*Common Stock*"), consisting of (i) 1,637,488 shares of Common Stock issuable pursuant to the Company's 2017 Equity Incentive Plan, as amended (the "*2017 EIP*"), (ii) 4,423,920 shares of Common Stock issuable pursuant to the Company's 2022 Equity Incentive Plan (the "*2022 EIP*"), and (iii) 187,000 shares of Common Stock issuable pursuant to the Company's 2022 Employee Stock Purchase Plan (together with the Company's 2017 EIP and 2022 EIP, the "*Plans*").

In connection with this opinion, we have examined and relied upon (i) the Registration Statement and related prospectuses, (ii) the Company's Amended and Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws, each as currently in effect, (iii) the forms of the Company's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, each of which is to be in effect immediately following the closing of the Company's initial public offering, in the forms filed as Exhibits 3.2 and 3.4, respectively, to the Company's Registration Statement on Form S-1 (No. 333-263295), (iv) the Plans and (v) originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below.

We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials, and the due authorization, execution and delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plans, the Registration Statement and related prospectuses, will be validly issued, fully paid, and nonassessable (except as to shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

Cooley LLP 3175 Hanover Street Palo Alto, CA 94304-1130 t: (650) 843-5000 f: (650) 849-7400 cooley.com Cooley

AN2 Therapeutics, Inc. March 28, 2022 Page Two

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ Josh Seidenfeld Josh Seidenfeld

> Cooley LLP 3175 Hanover Street Palo Alto, CA 94304-1130 t: (650) 843-5000 f: (650) 849-7400 cooley.com

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8- of AN2 Therapeutics, Inc. of our report dated March 4, 2022, except for the effects of the forward stock split discussed in Note 2 to the financial statements as to which the date is March 21, 2022, relating to the financial statements of AN2 Therapeutics, Inc. which appears in Amendment No. 1 to the Registration Statement on Form S-1 (No. 333-263295).

/s/ PricewaterhouseCoopers LLP San Jose, California March 28,2022

CALCULATION OF FILING FEE TABLES

Form S-8

AN2 Therapeutics, Inc.

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	2022 Equity Incentive Plan						
	(Common stock, \$0.00001 par value per share)	457(h)	4,423,920(2)	15.00(5)	\$66,358,800	.0000927	\$6,151.46
Equity	2022 Employee Stock Purchase Plan (Common stock, \$0.00001 par value per share)	457(h)	187,000(3)	12.75(6)	\$2,384,250	.0000927	\$221.02
Equity	2017 Equity Incentive Plan (Common stock, \$0.00001 par value per share)	457(h)	1,637,488(4)	6.09(7)	\$9,972,301.92	.0000927	\$924.43
Total Offering Amounts					\$78,715,351.92		\$7,296.91
Total Fee Offsets						N/A	
Net Fee Due						\$7,296.91	

(1) Pursuant to Rule 416(a) promulgated under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the Registrant's 2022 Equity Incentive Plan (the "2022 Plan"), the Registrant's 2022 Employee Stock Purchase Plan (the "2022 ESPP") and the Registrant's 2017 Equity Incentive Plan, as amended (the "2017 Plan"), by reason of any stock dividend, stock split, recapitalization, or other similar transaction effected that results in an increase to the number of outstanding shares of Registrant's common stock, as applicable. Pursuant to Rule 416(c) under the Securities Act, this Registration Statement shall also cover an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plans described herein.

(2) Represents 1,870,000 shares of the Registrant's common stock reserved for future issuance pursuant to stock options, restricted stock unit awards and other awards under the 2022 Plan, plus up to a maximum of 2,553,920 shares of the Registrant's common stock that are subject to awards outstanding under the 2017 Plan that are forfeited, terminate, expire or are otherwise not issued. The number of shares reserved for issuance under the 2022 Plan will automatically increase on January 1 each year, starting on January 1, 2023, and continuing through January 1, 2032, by the lesser of (a) 4% of the total number of shares of the Registrant's common stock outstanding on December 31 of the immediately preceding calendar year and (b) a number of shares determined by the Registrant's board of directors.

- (3) Represents 187,000 shares of the Registrant's common stock reserved for future issuance under the 2022 ESPP. The number of shares reserved for issuance under the 2022 ESPP will automatically increase on January 1 of each year, starting on January 1, 2023 and continuing through January 1, 2032, by the lesser of (a) 1% of the total number of shares of the Registrant's capital stock outstanding on December 31 of the preceding calendar year, (b) 561,000 shares of common stock and (c) a number of shares determined by the Registrant's board of directors.
- (4) Represents shares of the Registrant's common stock issuable upon exercise of stock options outstanding under the 2017 Plan as of the date of this Registration Statement. The 2017 Plan has been terminated and no further options grants or other awards shall be made under the 2017 Plan and no further grants will be made under the 2017 Plan. To the extent outstanding awards granted under the 2017 Plan are cancelled, forfeited or held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by the Registrant prior to vesting, satisfied without any issuance of stock, expire or are otherwise terminated (other than by exercise) subsequent to the date of this Registration Statement, the shares of common stock reserved for issuance pursuant to such awards will become available for issuance as shares of common stock under the 2022 Plan, subject to the maximum limit set forth in the 2022 Plan.
- (5) Estimated in accordance with Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee on the basis of the initial public offering price of \$15.00 per share of common stock as set forth in the prospectus dated March 24, 2022, relating to the Registrant's Registration Statements on Form S-1, as amended (File Nos. 333-263295 and 333-263840).
- (6) Estimated in accordance with Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee on the basis of the initial public offering price of \$15.00 per share of common stock as set forth in the prospectus dated March 24, 2022, relating to the Registrant's Registration Statements on Form S-1, as amended (File Nos. 333-263295 and 333-263840), multiplied by 85%, which is the percentage of the price per share applicable to purchases under the 2022 ESPP.
- (7) Estimated in accordance with Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee on the basis of the weighted-average exercise price per share (rounded to the nearest cent) for outstanding options granted pursuant to the 2017 Plan.