UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3 REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

Dyne Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization) 36-4883909 (I.R.S. Employer Identification Number)

1560 Trapelo Road Waltham, Massachusetts 02451 (781) 786-8230

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Joshua T. Brumm
President and Chief Executive Officer
Dyne Therapeutics, Inc.
1560 Trapelo Road Waltham, Massachusetts 02451
(781) 786-8230

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

Stuart M. Falber Scott N. Lunin Wilmer Cutler Pickering Hale and Dorr LLP 60 State Street Boston, Massachusetts 02109 (617) 526-6000

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

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

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

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

333-260755

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

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

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

•	hether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, y. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting conf the Exchange Act.		an		
Large accelerated filer		Accelerated filer			
Non-accelerated filer		Smaller reporting company	\times		
		Emerging growth company	\boxtimes		
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. □ This Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended.					

EXPLANATORY NOTE AND INCORPORATION BY REFERENCE

This registration statement is being filed with respect to the registration of an additional aggregate amount of securities of Dyne Therapeutics, Inc., a Delaware corporation, pursuant to Rule 462(b) under the Securities Act of 1933, as amended. The contents of the Registration Statement on Form S-3 (File No. 333-260755), which was filed on November 4, 2021 and declared effective on November 17, 2021, are incorporated in this registration statement by reference.

The required opinion and consents are listed on an Exhibit Index attached hereto and filed herewith.

UNDERTAKING

The registrant hereby certifies to the Securities and Exchange Commission that (i) it has instructed its bank to pay the Securities and Exchange Commission the filing fee set forth in the filing fee table that is attached as an exhibit to this registration statement by wire transfer of such amount to the Securities and Exchange Commission's account at U.S. Bank as soon as practicable (but no later than the close of business on January 5, 2024); (ii) it will not revoke such instruction; (iii) it has sufficient funds in the relevant account to cover the amount of such filing fee; and (iv) it will confirm receipt of such instructions by its bank during the bank's regular business hours no later than January 5, 2024.

EXHIBIT INDEX

Exhibit No.	Description
5.1	Opinion of Wilmer Cutler Pickering Hale and Dorr LLP
23.1	Consent of Deloitte & Touche LLP, independent registered public accounting firm
23.2	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)
24.1	Power of Attorney (incorporated by reference to the signature page to the Registrant's Registration Statement on Form S-3 (File No. 333-260755) filed with the Commission on November 4, 2021)
107	Filing fee table

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts, on this 4th day of January, 2024.

DYNE THERAPEUTICS, INC.

By: /s/ Joshua Brumm

Joshua Brumm President and Chief Executive Officer

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

Signature	Title	Date
/s/ Joshua Brumm Joshua Brumm	President, Chief Executive Officer and Director (principal executive officer)	January 4, 2024
/s/ Richard Scalzo Richard Scalzo	Senior Vice President, Head of Finance and Administration (principal financial and accounting officer)	January 4, 2024
* Jason Rhodes	Director and Chairman of the Board	January 4, 2024
* Ed Hurwitz	Director	January 4, 2024
Carlo Incerti, M.D.	Director	
* Dirk Kersten	Director	January 4, 2024
* David Lubner	Director	January 4, 2024
* Catherine Stehman-Breen, M.D.	Director	January 4, 2024
* By: /s/ Joshua Brumm Joshua Brumm Attorney-in-Fact		

WILMERHALE

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January 4, 2024

Dyne Therapeutics, Inc. 1560 Trapelo Road Waltham, Massachusetts 02451

Re: <u>Dyne Therapeutics, Inc. – Registration Statement on Form S-3</u>

Ladies and Gentlemen:

This opinion is furnished to you in connection with the Registration Statement on Form S-3 (the "Registration Statement") filed by Dyne Therapeutics, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of shares of Common Stock, par value \$0.0001 per share, of the Company with a proposed maximum aggregate offering price of \$37,364,472 (the "Shares").

The Shares are to be issued and sold by the Company pursuant to an underwriting agreement, dated January 4, 2024 (the "Underwriting Agreement"), to be entered into by and among the Company and Morgan Stanley & Co. LLC, J.P. Morgan Securities LLC and Jefferies LLC, as representatives of the several underwriters named therein, which will be filed with the Commission as an exhibit to a Current Report on Form 8-K.

We are acting as counsel for the Company in connection with the issue and sale by the Company of the Shares. We have examined and relied upon a signed copy of the Registration Statement as filed with the Commission. We have also examined and relied upon the Underwriting Agreement, minutes of meetings and actions of the stockholders and the Board of Directors of the Company, including the committees thereof, as provided to us by the Company, the Restated Certificate of Incorporation and Amended and Restated Bylaws of the Company, each as restated and/or amended to date, and such other documents, instruments and certificates as we have deemed necessary for the purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Palo Alto San Francisco Washington

Dyne Therapeutics, Inc. January 4, 2024 Page 2

WILMERHALE

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related prospectus and any prospectus supplement under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ WILMER CUTLER PICKERING HALE AND DORR LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3 MEF of our report dated March 2, 2023 relating to the financial statements of Dyne Therapeutics, Inc. appearing in the Annual Report on Form 10-K of Dyne Therapeutics, Inc. for the year ended December 31, 2022 and incorporated by reference into Registration Statement No. 333-260755 on Form S-3 of Dyne Therapeutics, Inc. We also consent to the reference to us under the heading "Experts" in Registration Statement No. 333-260755 on Form S-3.

/s/ Deloitte & Touche LLP

Boston, Massachusetts January 4, 2024

Calculation of Filing Fee Tables

Form S-3 (Form Type)

Dyne Therapeutics, Inc.

(Exact Name of Registrant as Specified in its Charter)

Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Share	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common						
	Stock, par						
	value						
	\$0.0001						
	per share	Rule 457(o)	(1)	(1)	(1)		
Unallocated	Unallocated						
(Universal) Shelf	(Universal) Shelf	Rule 457(o)	(1)	(1)	\$37,364,472	0.00014760	\$5,515
Total Offering Amounts					\$37,364,472		\$5,515
Total Fees Paid Previously							_
Total Fee Offsets							_
Net Fee Due							\$5,515

⁽¹⁾ The Registrant previously registered the offer and sale of certain securities, including its common stock, par value \$0.0001 per share, having a proposed maximum aggregate offering price of \$400,000,000 pursuant to Registration Statement on Form S-3 (File No. 333-260755), which was filed on November 4, 2021 and declared effective by the Securities and Exchange Commission on November 17, 2021 (the "*Prior Registration Statement*"). As of the date hereof, a balance of \$307,779,278 of such securities remains unsold under the Prior Registration Statement. In accordance with Rule 462(b) under the Securities Act of 1933, as amended, and General Instruction IV(A) of Form S-3, the Registrant is hereby registering the offer and sale of an additional \$37,364,472 of its shares of common stock. The additional amount of securities that is being registered for offer and sale represents no more than 20% of the maximum aggregate offering price of the remaining securities available to be sold under the Prior Registration Statement.