UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

NEOLEUKIN THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	98-0542593
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

188 East Blaine Street, Suite 450 Seattle, Washington 98102 (866) 245-0312 (Address of principal executive offices) (Zip code)

Amended and Restated Neoleukin Therapeutics, Inc. 2014 Equity Incentive Plan (Full title of the plan)

> Jonathan G. Drachman Chief Executive Officer Neoleukin Therapeutics, Inc. 188 East Blaine Street, Suite 450 Seattle, Washington 98102

(866) 245-0312 (Name and address of agent for service) (Telephone number, including area code, of agent for service)

Please send copies of all communications to:

Effie Toshav, Esq. Robert Freedman, Esq. Julia Forbess, Esq. Fenwick & West LLP 555 California Street, 12th Floor San Francisco, California 94104 (415) 875-2300

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," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Company in Rule 120-2 0	The Exchange Act.		
Large accelerated filer		Accelerated filer	
Non-accelerated filer		Smaller reporting company	\boxtimes
		Emerging growth company	
	npany, indicate by check mark if the registrant has elected not to use the extended transition standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. \square	on period for complying with any	new

EXPLANATORY NOTE REGISTRATION OF ADDITIONAL SHARES PURSUANT TO GENERAL INSTRUCTION E

This Registration Statement on Form S-8 is being filed by Neoleukin Therapeutics, Inc. (the "Registrant") for the purpose of registering an additional 2,204,819 shares of the Registrant's common stock to be issued pursuant to the Registrant's Amended and Restated 2014 Equity Incentive Plan (the "2014 EIP"). These additional shares of common stock are securities of the same class as other securities for which registration statements on Form S-8 (File Nos. 333-194490, 333-203179, 333-210172, 333-216572, 333-223589, 333-234734, 333-237124, and 333-254725) were filed with the Securities and Exchange Commission (the "Commission") on March 11, 2014, April 1, 2015, March 14, 2016, March 9, 2017, March 12, 2018, November 15, 2019, March 12, 2020 and March 25, 2021, respectively. These additional shares of common stock have become reserved for issuance as a result of the operation of the "evergreen" provision in the 2014 EIP, which provides that the total number of shares subject to such plan will be increased on January 1 of each year pursuant to a specified formula through January 1, 2030.

PART II

ITEM 3. INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents filed by the Registrant with the Commission are incorporated by reference into this Registration Statement:

- (a) the description of the Registrant's common stock which is contained in the Registrant's registration statement on Form 8-A filed on March 3, 2014 (File No. 001-36327) 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;
- **(b)** the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021, which includes audited financial statements for the Registrant's latest fiscal year, filed with the Commission on March 1, 2022;
- (c) the Registrant's Current Reports on Form 8-K filed with the Commission on January 10, 2022 (solely with respect to Item 8.01 thereunder), February 15, 2022, and March 1, 2022 (solely with respect to Item 5.02 thereunder); and
- (d) 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 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

As of the date of this Registration Statement, attorneys of Fenwick & West LLP beneficially own an aggregate of approximately 3,000 shares of the Registrant's common stock.

ITEM 8. EXHIBITS

Exhibit		Incorporated by Reference				Filed
Number	Exhibit Description	Form	File No.	Exhibit	Filing Date	Herewith
4.1	Amended and Restated Certificate of Incorporation of the Registrant	8-K	001-36327	3.1	March 12, 2014	
4.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of the Registrant	10-Q	001-36327	3.4	November 13, 2019	
4.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation of the Registrant	10-Q	001-36327	3.5	November 13, 2019	
4.4	Amended and Restated Bylaws of the Registrant	8-K	001-36327	3.1	April 13, 2020	
4.5	Specimen Common Stock Certificate of the Registrant	10-Q	001-36327	4.1	May 13, 2014	
5.1	Opinion of Fenwick & West LLP					X
23.1	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm					X
23.2	Consent of Fenwick & West LLP (contained in Exhibit 5.1)					X
24.1	Power of Attorney (included on the signature page to this Registration Statement)					X
99.1	Amended and Restated 2014 Equity Incentive Plan, as amended	8-K	001-36327	10.1	May 14, 2021	
99.2	Forms of Option Agreement and Option Grant Notice for Registrant's 2014 Equity Incentive Plan	S-1	333-193615	10.4	January 28, 2014	
99.3	Restricted Stock Unit Grant Notice for Registrant's 2014 Equity Incentive Plan	10-Q	001-36327	10.2	August 12, 2020	
107	Filing Fee Table					X

ITEM 9. UNDERTAKINGS

- A. The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in 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 Registration Fee" table in the effective registration statement.

(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;

<u>provided</u>, <u>however</u>, that paragraphs (A)(1)(i) and (A)(1)(i) 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 herein, 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 undersigned 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.
- 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 Securities and Exchange 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 Seattle, Washington on this 1st day of March, 2022.

NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Jonathan G. Drachman, M.D.

Jonathan G. Drachman, M.D.

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jonathan G. Drachman and Sean Smith, and each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him and in his name, place or stead, 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, 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 and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their, 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:

Signature	Title	Date	
/s/ Jonathan G. Drachman, M.D. Jonathan G. Drachman, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	March 1, 2022	
/s/ Robert Ho Robert Ho	Chief Financial Officer (Principal Financial and Accounting Officer)	March 1, 2022	
/s/ Martin Babler Martin Babler	Director	March 1, 2022	
/s/ M. Cantey Boyd M. Cantey Boyd	Director	March 1, 2022	
/s/ Erin Lavelle Erin Lavelle	Director	March 1, 2022	
/s/ Sarah B. Noonberg, M.D., Ph.D. Sarah B. Noonberg, M.D., Ph.D.	Director	March 1, 2022	
/s/ Todd Simpson Todd Simpson	Director	March 1, 2022	
/s/ Lewis T. "Rusty" Williams, M.D., Ph.D. Lewis T. "Rusty" Williams, M.D., Ph.D.	Director	March 1, 2022	

Calculation Of Filing Fee Tables Form S-8 (Form Type) Neoleukin Therapeutics, Inc. (Exact Name of Registrant as Specified in its Charter)

Table 1: 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
Equity	Common stock, par value \$0.000001 per share	Rule 457(c) and Rule 457(h)	2,204,819(2)	\$2.63(3)	\$5,798,674	\$0.0000927	\$538
Total Offering Amounts				\$5,798,674		\$538	
Total Fees Previously Paid						-	
Total Fee Offsets						-	
Net Fee Due						\$538	

- (1) Pursuant to Rule 416(a) 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 becomes issuable in respect of the securities identified in the above table by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration that increases the number of the Registrant's outstanding shares of common stock.
- (2) Represents additional shares of common stock reserved for issuance under the Registrant's Amended and Restated 2014 Equity Incentive Plan, as amended and restated as of May 13, 2021.
- (3) Estimated in accordance with Rule 457(c) and (h) under the Securities Act solely for the purpose of calculating the registration fee on the basis of \$2.63, the average of the high and low prices of the Registrant's common stock as reported on The Nasdaq Global Market on February 24, 2022.

March 1, 2022

Neoleukin Therapeutics, Inc. 188 East Blaine Street, Suite 450 Seattle, Washington 98102

Ladies and Gentlemen:

At your request, as your counsel, we have examined the Registration Statement on Form S-8 (the "Registration Statement") to be filed by Neoleukin Therapeutics, Inc., a Delaware corporation (the "Company") with the Securities and Exchange Commission (the "Commission") on or about March 1, 2022 in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of an aggregate of 2,204,819 shares (the "Shares") of the Company's Common Stock, \$0.000001 par value per share (the "Common Stock"), subject to issuance by the Company upon the exercise or settlement of awards (including awards of stock options, restricted stock, stock bonuses, stock appreciation rights, restricted stock units and/or performance shares) to be granted under the Company's Amended and Restated 2014 Equity Incentive Plan (the "Plan").

In connection with our opinion, we have examined such matters of fact as we have deemed necessary, which included examination of originals or copies of: (a) the Company's current Certificate of Incorporation and Bylaws, as amended (collectively, the "Charter Documents"), the Plan, the Registration Statement and the exhibits thereto, (b) certain corporate proceedings of the Company's Board of Directors (the "Board") and the Company's stockholders relating to adoption or approval of the Company Charter Documents, the Plan, the reservation of the Shares for sale and issuance, the filing of the Registration Statement and the registration of the Shares under the Securities Act and documents regarding the Company's outstanding and reserved capital stock and other securities and (c) such other documents as we have deemed advisable, and we have examined such questions of law as we have considered necessary.

In our examination of documents for purposes of this opinion, we have assumed, and express no opinion as to, the authenticity and completeness of all documents submitted to us as originals, the genuineness of all signatures on documents reviewed by us, the conformity to originals and the completeness of all documents submitted to us as copies, the legal capacity of all parties executing any documents (other than the Company), the lack of any undisclosed termination or modification or waiver of any document, the absence of any extrinsic agreements or documents that might change or affect the interpretation or terms of documents, and the due authorization, execution and delivery of all documents by each party thereto other than the Company. We have also assumed that any certificates or instruments representing the Shares, when issued, will be executed by the Company by officers of the Company duly authorized to do so. In rendering our opinion, we have also relied upon a Certificate of Good Standing dated February 23, 2022 issued by the Delaware Secretary of State with respect to the Company and representations and certifications made to us by the Company, including without limitation representations in a Management Certificate addressed to us, that the Company has available a sufficient number of authorized shares of Common Stock that are not currently outstanding or reserved for issuance under other outstanding securities or plans of the Company, to enable the Company to issue and deliver all of the Shares as of the date of this letter.

We render this opinion only with respect to, and we express no opinion herein concerning the application or effect of the laws of any jurisdiction other than, the existing Delaware General Corporation Law now in effect. We express no opinion with respect to the securities or "blue sky" laws of any state.

Based upon, and subject to, the foregoing, it is our opinion that when the 2,204,819 Shares of Common Stock that may be issued and sold by the Company upon the exercise or settlement of awards (including any stock option, restricted stock, stock bonus, stock appreciation right, restricted stock unit or award of performance shares) to be granted under the Plan have been issued and sold by the Company against the Company's receipt of payment therefor (in an amount and type of consideration not less than

the par value per Share) in accordance with the terms (including without limitation payment and authorization provisions) of the Plan and have been duly registered on the books of the transfer agent and registrar for the Shares in the name or on behalf of the holders thereof, such Shares will be validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to all references to us, if any, in the Registration Statement, the prospectuses constituting a part thereof and any amendments thereto. We do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder. This opinion is intended solely for use in connection with issuance and sale of the Shares subject to the Registration Statement and is not to be relied upon for any other purpose. In providing this letter, we are opining only as to the specific legal issues expressly set forth above, and no opinion shall be inferred as to any other matter or matters. This opinion is rendered on, and speaks only as of, the date of this letter first written above, and does not address any potential change in facts or law that may occur after the date of this opinion letter. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention, whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

/s/ Fenwick & West LLP

FENWICK & WEST LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated March 1, 2022, relating to the financial statements of Neoleukin Therapeutics, Inc. appearing in the Annual Report on Form 10-K of Neoleukin Therapeutics, Inc. for the year ended December 31, 2021.

/s/ Deloitte & Touche LLP

Seattle, Washington

March 1, 2022