

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

**FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

Lumos Pharma, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

42-1491350

(I.R.S. Employer Identification Number)

**4200 Marathon Blvd., Suite 200
Austin, Texas 78756
(512) 215-2630**

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

**Richard J. Hawkins
Chief Executive Officer
Lumos Pharma, Inc.
4200 Marathon Blvd., Suite 200
Austin, Texas 78756
(512) 215-2630**

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

Copies to:

**J. Robert Suffoletta, Esq.
Wilson Sonsini Goodrich & Rosati, Professional Corporation
900 S. Capital of Texas Highway
Law Cimas IV, Fifth Floor
Austin, Texas 78746
(512) 338-5400**

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of the registration statement.

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

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.

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.

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.

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.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting 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 Accelerated filer
Non-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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, par value \$0.01 per share	4,146,398	\$13.68	\$56,722,724.64	\$7,362.61

- (1) The shares will be offered for resale by selling stockholders. Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant’s common stock that become issuable by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant’s outstanding shares of common stock.
- (2) Estimated solely for the purpose of calculating the registration fee according to Rule 457(c) under the Securities Act based on the average of the high (\$13.99) and low (\$13.37) prices of the Registrant’s common stock reported on the Nasdaq Global Market on June 8, 2020, which is within five business days prior to filing this Registration Statement.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities or accept an offer to buy these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting offers to buy these securities in any state where such offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JUNE 12, 2020

PROSPECTUS



4,146,398 Shares of Common Stock

This prospectus relates to the resale from time to time of up to 4,146,398 shares of common stock of Lumos Pharma, Inc. (the “Company,” “we,” “us” or “ours”), formerly known as NewLink Genetics Corporation (“NewLink”), by the selling stockholders listed on page 3. Such shares were issued or are issuable to the selling stockholders pursuant to the terms of the Agreement and Plan of Merger and Reorganization, dated as of September 30, 2019, by and among the Company, Cyclone Merger Sub, Inc., a wholly-owned subsidiary of the Company (“Merger Sub”), and Lumos Pharma Sub, Inc., formerly known as Lumos Pharma, Inc. (“Private Lumos”) (as amended, the “Merger Agreement”), pursuant to which Merger Sub merged with and into Private Lumos, with Private Lumos surviving as a wholly-owned subsidiary of the Company (the “Merger”). As a result of the Merger, the outstanding shares of common stock and preferred stock of Private Lumos were converted into the right to receive shares of our common stock on the terms set forth in the Merger Agreement. For accounting purposes, Private Lumos is considered to have acquired NewLink Genetics Corporation in the Merger.

We will not receive any proceeds from the sale of the shares offered by this prospectus.

Pursuant to the terms of the Merger Agreement, we are required to file this registration statement to register the sale, resale or other distribution of the shares of our common stock received by the Private Lumos stockholders in the Merger and we will bear all of the expenses incurred in connection with the registration of these shares. The selling stockholders will pay or assume discounts, commissions, fees of underwriters, selling brokers or dealer managers and similar expenses, if any, incurred for the sale of shares of our common stock.

The selling stockholders identified in this prospectus may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. For additional information on the methods of sale that may be used by the selling stockholders, see the section entitled “Plan of Distribution” on page 6. For a list of the selling stockholders, see the section entitled “Selling Stockholders” on page 3.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Our common stock is listed on the Nasdaq Global Market under the symbol “LUMO.” On June 11, 2020, the last reported sale price for our common stock was \$13.57 per share.

Investing in our securities involves a high degree of risk. See “[Risk Factors](#)” on page 2 of this prospectus and in the documents incorporated by reference in this prospectus, as updated in the applicable prospectus supplement, and other future filings we make with the Securities and Exchange Commission that are incorporated by reference into this prospectus, for a discussion of the factors you should consider carefully before deciding to purchase our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2020

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You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus may only be used where it is legal to offer and sell shares of our common stock. If it is against the law in any jurisdiction to make an offer to sell these shares, or to solicit an offer from someone to buy these shares, then this prospectus does not apply to any person in that jurisdiction, and no offer or solicitation is made by this prospectus to any such person. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock. Our business, financial condition, results of operations and prospects may have changed since such date. Information contained on our website is not a part of this prospectus.

PROSPECTUS SUMMARY

This summary highlights the information contained elsewhere in or incorporated by reference into this prospectus. Because this is only a summary, it does not contain all of the information that you should consider before investing in our securities. You should carefully read this entire prospectus, including the information contained under the heading "Risk Factors," and all other information included or incorporated by reference into this prospectus in their entirety before you invest in our securities.

Unless the context otherwise requires, all references in this prospectus to "Lumos," "we," "us," "our," "the Company" or similar words refer to Lumos Pharma, Inc., together with our consolidated subsidiaries.

Company Overview

We are a clinical-stage biopharmaceutical company focused on the identification, acquisition and in-license, development, and commercialization of novel products for the treatment of rare diseases. Our mission is to develop new therapies for people with rare diseases, prioritizing its focus where the medical need is high, and the pathophysiology is clear.

Our current pipeline is focused on the development of an orally administered small molecule, the growth hormone ("GH") secretagogue ibutamoren ("LUM-201") for rare endocrine disorders where injectable recombinant human growth hormone is currently approved. A secretagogue is a substance that stimulates the secretion or release of another substance. LUM-201 stimulates the release of GH and is referred to as a GH secretagogue. The current targeted indications for LUM-201 are Pediatric Growth Hormone Deficiency ("PGHD"), Turner Syndrome and Children Born Small for Gestational Age ("SGA"), in each case in a certain subset of affected patients. We are planning to initiate a clinical development program to study the effects of LUM-201 in PGHD prior to the end of 2020 with a Phase 2b clinical trial (the "Phase 2b Trial"). The coronavirus pandemic has caused pervasive interruptions to clinical trials industrywide. Facing similar near-term impediments, we have experienced some delays related to the pandemic and may experience further delays should the significant pandemic related disruptions persist. Depending on the outcome of data developed in the Phase 2b Trial and the timing of such data, we plan to conduct Phase 2 clinical trials to study the effects of LUM-201 for Turner Syndrome and SGA in certain subsets of affected patients.

Our principal executive offices are located at 4200 Marathon Blvd., Suite 200, Austin, Texas 78756 and our telephone number at that address is (512) 215-2630. Our corporate website is located at www.lumos-pharma.com. We make available free of charge through our website our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The information contained in, or that can be accessed through, our website is not part of this prospectus.

THE OFFERING

Common stock offered by selling stockholders	Up to 4,146,398 shares.
Use of proceeds	We will not receive any proceeds from the sale of shares of common stock by the selling stockholders.
Offering Price	The selling stockholders may sell all or a portion of their shares through public or private transactions at prevailing market prices or at privately negotiated prices.
Risk factors	You should read the “Risk Factors” section included in, and the risk factors incorporated by reference in this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Nasdaq Global Market symbol	“LUMO”

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risk factors set forth under “Risk Factors” in (i) our Annual Report on Form 10-K for the year ended December 31, 2019, and (ii) our Quarterly Report on Form 10-Q for the three months ended March 31, 2020, each of which is incorporated by reference in this prospectus, together with all other information contained or incorporated by reference in this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in any applicable prospectus supplement, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus is a part. The risks and uncertainties we describe in the documents incorporated by reference herein are not the only ones we face. Additional risks and uncertainties not presently known to us could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or part of your investment.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and our SEC filings that are incorporated by reference into this prospectus contain or incorporate by reference forward-looking statements within the meaning of Section 27A of the Securities Act, Section 21E of the Exchange Act and the Private Securities Litigation Reform Act of 1995, and such statements are subject to the “safe harbor” created by those sections. Forward-looking statements are based on our management’s beliefs and assumptions and on information available to our management as of the date hereof. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “could,” “would,” “expect,” “plans,” “anticipates,” “believes,” “estimates,” “projects,” “predicts,” “potential” and similar expressions intended to identify forward-looking statements. Examples of these statements include, but are not limited to, statements regarding: the development plan for the Company’s product candidate LUM-201 (ibutamoren); the development plan for our existing pipeline and potential partnership and out-licensing opportunities; the timing of planned preclinical studies and clinical trials; the timing of and our ability to obtain regulatory approvals for our product candidates; the clinical utility of our product candidates; our plans to leverage our existing technologies to discover and develop additional product candidates; our intellectual property position; our ability to enter into strategic collaborations, licensing or other arrangements; our estimates regarding expenses, future revenues, capital requirements and needs for additional financing; plans to develop and commercialize our product candidates; and other risks and uncertainties, including those described under the heading “Risk Factors” contained or incorporated by reference in this prospectus and in any applicable prospectus supplement. Our actual results could differ materially from those discussed in our forward-looking statements for many reasons, including those risks. These factors and the other cautionary statements made in this prospectus should be read as being applicable to all related forward-looking statements whenever they appear in this prospectus. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Such factors may be amplified by the COVID-19 pandemic and its potential impact on our business and the global economy. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

USE OF PROCEEDS

We are filing the registration statement of which this prospectus is a part to permit holders of the shares of our common stock described in the section entitled “Selling Stockholders” to resell such shares. We are not selling any securities under this prospectus and we will not receive any proceeds from the sale or other disposition of shares of our common stock held by the selling stockholders.

The selling stockholders will pay any discounts, commissions, fees of underwriters, selling brokers or dealer managers and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholders in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, printing fees, Nasdaq listing fees and fees and expenses of our counsel and our accountants.

SELLING STOCKHOLDERS

This prospectus covers the resale by the selling stockholders identified below of up to 4,146,398 shares of our common stock issued or issuable to the selling stockholders pursuant to the Merger. Under the terms of the Merger, Private Lumos

stockholders received an aggregate of 4,146,398 shares of our common stock in a private placement transaction in reliance upon an exemption from the Securities Act of 1933, as amended, at an exchange rate of (i) 0.1308319305 shares of common stock in exchange for each share of Private Lumos common stock outstanding immediately prior to the Merger, (ii) 0.0873621142 shares of our common stock in exchange for each share of Private Lumos Series A Preferred Stock outstanding immediately prior to the Merger, and (iii) 0.1996348626 shares of our common stock in exchange for each share of Private Lumos Series B Preferred Stock outstanding immediately prior to the Merger. Also, prior to the effective time of the Merger, we effected a 1-for-9 reverse stock split of our common stock (the “Reverse Stock Split”). Immediately following the Reverse Stock Split and the completion of the Merger, there were 8,292,803 shares of our common stock outstanding, and the former Private Lumos stockholders beneficially owned approximately 50% of the shares of the Company and the former NewLink stockholders beneficially owned approximately 50% of the shares of the Company. For accounting purposes, Private Lumos is considered to have acquired NewLink in the Merger. Under the Merger Agreement, we agreed to file a registration statement to register the sale, resale or other distribution of the shares of our common stock received by the Private Lumos stockholders in the Merger within 90 days of the closing date of the Merger. The registration statement of which this prospectus is a part has been filed in accordance with the Merger Agreement.

We will not receive any proceeds from the resale of the common stock by the selling stockholders.

This prospectus covers the sale or other disposition by the selling stockholders of up to the total number of shares of our common stock issued or issuable to the selling stockholders pursuant to the Merger. The table below sets forth, to our knowledge, information concerning the beneficial ownership of shares of our common stock by the selling stockholders as of May 27, 2020. The selling stockholders may sell all, some or none of the shares of common stock subject to this prospectus. See “Plan of Distribution” as may be supplemented and amended from time to time.

The number of shares of common stock beneficially owned prior to the offering for each selling stockholder includes (i) all shares of our common stock beneficially held by such selling stockholder as of May 27, 2020, (ii) the number of shares of our common stock that may be offered under this prospectus, and (iii) the number and percentage of our common stock beneficially owned by the selling stockholders assuming all of the shares of our common stock registered hereunder are sold. The table below and footnotes assume that the selling stockholders will sell all of the shares listed. However, because the selling stockholders may sell all or some of their shares under this prospectus from time to time, or in another permitted manner, we cannot assure you as to the actual number of shares that will be sold by the selling stockholders or that will be held by the selling stockholders after completion of any sales. We do not know how long the selling stockholders will hold the shares before selling them. The percentages of shares owned before and after the offering are based on 8,292,803 shares of common stock outstanding as of May 27, 2020, which includes the outstanding shares of common stock offered by this prospectus.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to our common stock. Generally, a person “beneficially owns” shares of our common stock if the person has or shares with others the right to vote those shares or to dispose of them, or if the person has the right to acquire voting or disposition rights within 60 days. The inclusion of any shares in this table does not constitute an admission of beneficial ownership for any selling stockholder named below.

Information about the selling stockholders may change over time. Any changed information will be set forth in an amendment to the registration statement or supplement to this prospectus, to the extent required by law. The selling stockholders listed below are sorted by beneficial ownership in decreasing order.

Name of Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to Offering			Number of Shares of Common Stock Being Offered (1)	Shares of Common Stock to be Beneficially Owned After Offering (2)	
	Number	Percentage			Number	Percentage
Deerfield Private Design Fund III, L.P. (3)	936,291	11.3	%	936,291	—	
Richard J. Hawkins (4)	736,890	9.1	%	719,575	17,315	0.21 %
Entities affiliated with New Enterprise Associates, Inc. (5)	526,663	6.4	%	526,663	—	
Clarus Lifesciences III, L.P. (6)	468,145	5.6	%	468,145	—	
Santé Health Ventures II, L.P. (7)	409,627	4.9	%	409,627	—	
Roche Finance Ltd (8)	292,590	3.5	%	292,590	—	
Jon Saxe	281,288	3.4	%	281,288	—	
UCB Finance N.V. (9)	175,554	2.1	%	175,554	—	
The Wellcome Trust Limited (10)	159,595	1.9	%	159,595	—	
Edward R. Gomoll	130,831	1.6	%	130,831	—	
Robert Davis	26,166	0.3	%	26,166	—	
Liza A. Squires	10,916	0.1	%	10,916	—	
Kevin Tully	9,144	0.1	%	9,144	—	
David Weiner	13	—	%	13	—	

- (1) The number of shares of our Common Stock in the column “Number of Shares Offered” represents all of the shares of our common stock that a selling stockholder may offer and sell from time to time under this prospectus.
- (2) We do not know when or in what amounts a selling stockholder may offer shares for sale. The selling stockholders might not sell any or might sell all of the shares offered by this prospectus. Because the selling stockholders may offer all or some of the shares pursuant to this offering, and because there are currently no agreements, arrangements or understandings with respect to the sale of any of the shares, we cannot estimate the number of the shares that will be held by the selling stockholders after completion of the offering. However, for purposes of this table, we have assumed that, after completion of the offering, none of the shares covered by this prospectus will be held by the selling stockholders.
- (3) Consists of shares held by Deerfield Private Design Fund III, L.P. Deerfield Mgmt III, L.P. is the general partner of, and Deerfield Management Company, L.P. is the investment advisor to, Deerfield Private Design Fund III, L.P. Mr. James E. Flynn is the sole member of the general partner of each of Deerfield Mgmt III, L.P. and Deerfield Management Company, L.P. The address for each of these entities and Mr. Flynn is 780 Third Avenue, 37th Floor, New York, NY 10017.
- (4) Consists of (i) 719,575 shares of common stock held by Mr. Hawkins, and (ii) 17,315 shares Mr. Hawkins has the right to acquire through the exercise of stock options within 60 days of May 27, 2020.
- (5) Consists of (i) 2,633 shares held by NEA Ventures 2013, L.P. (“Ven 2013”) and (ii) 524,030 shares held by New Enterprise Associates 14, L.P. (“NEA 14”) (collectively, the “NEA Shares”). The shares held by Ven 2013 are held indirectly by Karen P. Welsh, the general partner of Ven 2013. The shares held by NEA 14 are held indirectly by NEA Partners 14, L.P. (“NEA Partners 14”), the general partner of NEA 14, NEA 14 GP LTD (“NEA 14 LTD”), the general partner of NEA Partners 14, and the individual directors (the “Directors”) of NEA 14 LTD. The Directors of NEA 14 LTD are Forest Baskett, Anthony A. Florence, Patrick J. Kerins, Scott D. Sandell, and Peter W. Sonsini. All indirect holders of the above referenced shares disclaim beneficial ownership of all applicable shares except to the extent of their pecuniary interest therein. The address for each of these entities is c/o New Enterprise Associates, Inc., 1954 Greenspring Drive, Suite 600, Timonium, Maryland 21093.

- (6) Consists of shares held by Clarus Lifesciences III, L.P. (“Clarus”). Clarus Ventures III GP, L.P. is the general partner of Clarus. Blackstone Clarus III L.L.C. is the general partner of Clarus Ventures III GP, L.P. The sole member of Blackstone Clarus III L.L.C. is Blackstone Holdings II L.P. The sole general partner of Blackstone Holdings II L.P. is Blackstone Holdings I/II GP L.L.C. The sole member of Blackstone Holdings I/II GP L.L.C. is The Blackstone Group Inc. The sole holder of the Class C common stock of The Blackstone Group Inc. is Blackstone Group Management L.L.C. Blackstone Group Management L.L.C. is wholly-owned by Blackstone’s senior managing directors and controlled by its founder, Stephen A. Schwarzman Each of such entities and Mr. Schwarzman may be deemed to beneficially own the shares beneficially owned by Clarus, but each (other than Clarus) disclaims beneficial ownership of such shares. The address for each of Clarus and Clarus Ventures III GP, L.P. is c/o Clarus Ventures LLC, 101 Main Street, Suite 1210, Cambridge, MA 02142. The address for each of the other Blackstone entities and Mr. Schwarzman is c/o The Blackstone Group Inc., 345 Park Avenue, New York, NY 10154.
- (7) Consists of shares held by Santé Health Ventures II, L.P. Kevin Lalande, Joe Cunningham, M.D. and Douglas D. French, are managing directors (the “SHV Directors”) of SHV Management Services II, LLC (“SHV Management”). SHV Management is the general partner of SHV Management Services II, LP, which is the general partner of Santé Health Ventures II, L.P. Each of the SHV Directors, SHV Management, and SHV Management Services II, LP disclaims beneficial ownership of these securities except to the extent of its or his pecuniary interest therein. The address for these entities and individuals is 201 W 5th Street, Suite 1500, Austin, TX 78701.
- (8) Consists of shares held by Roche Finance Ltd. Roche Finance Ltd is a wholly-owned subsidiary of Roche Holding Ltd, a publicly-held corporation. The principal address of Roche Finance Ltd is Grenzacherstrasse 122, 4070 Basel, Switzerland.
- (9) Consists of shares held by UCB Finance N.V. UCB Finance N.V. is a direct wholly-owned subsidiary of UCB SA, a publicly-held company listed on Euronext Brussels. The principal address of UCB Finance N.V. is Hoge Mosten 2 A1, 4822 NH Breda.
- (10) Consists of shares held by The Wellcome Trust Limited as trustee of the Wellcome Trust. The Wellcome Trust Limited as trustee of the Wellcome Trust, is governed by its Board of Governors, which is comprised of Eliza Manningham Buller, Michael Ferguson, Tobias Bonhoeffer, Elhadj As Sy, Amelia Fawcett, Richard Gillingwater, Bryan Grenfell, Fiona Powrie and Cilla Snowball. The principal address of The Wellcome Trust Limited as trustee of the Wellcome Trust is 215 Euston Road, London NW1 2BE, England.

Plan of Distribution

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, as amended (the "Securities Act"), amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made

directly or through agents. We will not receive any of the proceeds from this offering. Upon any exercise of the warrants by payment of cash, however, we will receive the exercise price of the warrants.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable, we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed with the selling stockholders to use commercially reasonable efforts to cause the registration statement of which this prospectus constitutes a part effective and to remain continuously effective and usable until the date that is the three-year anniversary of the effective date of such registration, or such earlier time as all shares covered by the registration statement of which this prospectus constitutes a part (i) have been sold pursuant to such registration statement or otherwise, (ii) may be transferred under Rule 144 or another similar exemption under the Securities Act without manner of sale or volume restrictions, or (iii) cease to be outstanding.

LEGAL MATTERS

The validity of the shares of our common stock being offered by this prospectus is being passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Austin, Texas.

EXPERTS

The consolidated financial statements of NewLink Genetics Corporation as of December 31, 2019 and 2018, and for each of the years in the three-year period ended December 31, 2019, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The financial statements of Lumos Pharma, Inc. (Private Lumos) as of December 31, 2019 and 2018, and for each of the years then ended, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>.

We make available, free of charge, through our investor relations website, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, statements of changes in beneficial ownership of securities and amendments to those reports and statements as soon as reasonably practicable after they are filed with the SEC. The address for our website is <http://www.lumos-pharma.com>. The contents on our website are not part of this prospectus, and the reference to our website does not constitute incorporation by reference into this prospectus of the information contained at that site.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiaries and our securities. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC's website.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with the SEC. This means that we can disclose important information to you by referring you to those documents. Any statement contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein, or in any subsequently filed document, which also is incorporated by reference herein, modifies or supersedes such earlier statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We hereby incorporate by reference into this prospectus the following documents that we have filed with the SEC under the Exchange Act File No. 001-35342 (other than current reports on Form 8-K, or portions thereof, furnished under Items 2.02 or 7.01 of Form 8-K):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 3, 2020;
- Amendment No. 1 to our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2019, filed with the SEC on April 29, 2020;
- our revised definitive proxy statement on Schedule 14A filed February 13, 2020 in connection with the Company's special meeting of stockholders;

- the supplement to our proxy statement on Schedule 14A filed March 6, 2020 in connection with the Company's special meeting of stockholders;
- our Current Reports on Form 8-K filed with the SEC on March 18, 2020, March 27, 2020, April 2, 2020, April 24, 2020, May 14, 2020 and June 9, 2020;
- our Current Report on Form 8-K/A filed with the SEC on June 1, 2020;
- our Quarterly Report on Form 10-Q filed with the SEC on June 2, 2020; and
- the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on November 8, 2011 (File No. 001-35342), including any amendment or report updating such description.

All documents that we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than current reports on Form 8-K, or portions thereof, furnished under Items 2.02 or 7.01 of Form 8-K) (i) after the initial filing date of the registration statement of which this prospectus forms a part and prior to the effectiveness of such registration statement and (ii) after the date of this prospectus and prior to the termination of the offering shall be deemed to be incorporated by reference in this prospectus from the date of filing of the documents, unless we specifically provide otherwise. Information that we file with the SEC will automatically update and may replace information previously filed with the SEC. To the extent that any information contained in any current report on Form 8-K or any exhibit thereto, was or is furnished to, rather than filed with the SEC, such information or exhibit is specifically not incorporated by reference.

Upon written or oral request made to us at the address or telephone number below, we will, at no cost to the requester, provide to each person, including any beneficial owner, to whom this prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus (other than an exhibit to a filing, unless that exhibit is specifically incorporated by reference into that filing), but not delivered with this prospectus. You may also access this information on our website at <https://lumos-pharma.com/> by viewing the "SEC Filings" subsection of the "Investors & Media - Financial Information" menu. No additional information on our website is deemed to be part of or incorporated by reference into this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Lumos Pharma, Inc.
4200 Marathon Blvd., Suite 200
Austin, Texas 78756
(512) 215-2630



4,146,398 Shares of Common Stock

PROSPECTUS

, 2020

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. *Other Expenses of Issuance and Distribution*

The following table sets forth the fees and expenses incurred or expected to be incurred by us in connection with the issuance and distribution of the securities being registered hereby, other than underwriting discounts and commissions.

SEC registration fee	\$	7,363
Legal fees and expenses	\$	35,000
Accounting fees and expenses	\$	10,000
Printing fees and engraving expenses	\$	—
Miscellaneous expenses	\$	—
Total	\$	52,363

Item 15. *Indemnification of Directors and Officers*

Under Section 145 of the Delaware General Corporation Law, or DGCL, we have broad powers to indemnify our directors and officers against liabilities they may incur in such capacities, including liabilities under the Securities Act of 1933, as amended, or the Securities Act. Section 145 of the DGCL generally provides that a Delaware corporation has the power to indemnify its present and former directors, officers, employees and agents against expenses incurred by them in connection with any suit to which they are or are threatened to be made, a party by reason of their serving in such positions so long as they acted in good faith and in a manner they reasonably believed to be in or not opposed to, the best interests of the corporation and, with respect to any criminal action, they had no reasonable cause to believe their conduct was unlawful.

Our Amended and Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws ("Bylaws") provide that we will limit the liability of our directors, and may indemnify our directors and officers, to the maximum extent permitted by the DGCL. The DGCL provides that directors of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except for liability for any:

- breach of their duty of loyalty to the corporation or its stockholders;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- transaction from which the directors derived an improper personal benefit.

These limitations of liability do not apply to liabilities arising under federal securities laws and do not affect the availability of equitable remedies such as injunctive relief or rescission.

We entered into separate indemnification agreements with our directors and officers in addition to the indemnification provided for in our Bylaws. These indemnification agreements provide, among other things, that we will indemnify our directors and officers for certain expenses, including damages, judgments, fines, penalties, settlements and costs and attorneys' fees and disbursements, incurred by a director or officer in any claim, action or proceeding arising in his or her capacity as a director or officer of our company or in connection with service at our request for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director or officer makes a claim for indemnification.

We also maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and officers.

The underwriting agreement, if any, entered into with respect to an offering of securities registered hereunder will provide for indemnification by any underwriters of any offering, our directors and officers who sign the registration statement and our controlling persons for some liabilities, including liabilities arising under the Securities Act.

Item 16. Exhibits

The following exhibits are filed as part of this registration statement.

Exhibit Number	Description	Filed Herewith	Incorporated by Reference		
			Form	File/Film No.	Date Filed
2.1†	Agreement and Plan of Merger and Reorganization, dated September 30, 2019, by and among NewLink Genetics Corporation, Cyclone Merger Sub, Inc. and Lumos Pharma, Inc., as amended		8-K	2.1	9/30/2019
3.1	Amended and Restated Certificate of Incorporation filed on November 16, 2011		8-K	3.1	11/18/2011
3.2	Certificate of Amendment to Restated Certificate of Incorporation filed on May 10, 2013		8-K	3.1	5/14/2013
3.3	Certificate of Amendment to Certificate of Incorporation to Effect the Reverse Stock Split		8-K	3.1	3/18/2020
3.4	Certificate of Amendment to Certificate of Incorporation to Effect the Name Change		8-K	3.2	3/18/2020
3.5	Amended and Restated Bylaws		8-K	3.1	9/30/2019
4.1	Form of common stock certificate		8-K	4.1	3/18/2020
4.2	Amended and Restated Investor Rights Agreement by and between the Registrant and certain holders of the Registrant's capital stock dated as of December 1, 2010		10-Q	4.3	5/10/2012
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, P.C	X			
23.1	Consent of KPMG LLP, independent registered public accounting firm (Lumos Pharma, Inc.)	X			
23.2	Consent of KPMG LLP, independent registered public accounting firm (NewLink Genetics Corporation)	X			
23.3	Consent of Wilson Sonsini Goodrich & Rosati, P.C. (included in Exhibit 5.1)	X			
24.1	Power of attorney (included on the signature page to the registration statement)	X			

† The schedules and exhibits to the merger agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the Securities and Exchange Commission upon request.

Item 17. 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 of 1933;

(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 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in 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)(1)(i), (a)(1)(ii) and (a)(1)(iii) 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 Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement;

(2) That, for the purpose of determining any liability under the Securities Act of 1933, 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;

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which the prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; and

(5) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) 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.

(6) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 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 Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Austin, State of Texas, on June 12, 2020.

LUMOS PHARMA, INC.

By: /s/ Richard J. Hawkins
Richard J. Hawkins
Chief Executive Officer

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Richard J. Hawkins and Carl W. Langren, and each of them acting individually, as his or her true and lawful attorneys-in-fact and agent, with full power of each to act alone, with full powers of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments and any related registration statements filed pursuant to Rule 462 and otherwise), 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 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 for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that all said attorneys-in-fact and agents, or any of them or their substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, 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/ Richard J. Hawkins</u> Richard J. Hawkins	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	June 12, 2020
<u>/s/ Carl W. Langren</u> Carl W. Langren	Chief Financial Officer <i>(Principal Financial Officer)</i>	June 12, 2020
<u>/s/ Lori D. Lawley</u> Lori D. Lawley	Sr. VP of Finance and Controller <i>(Principal Accounting Officer)</i>	June 12, 2020
<u>/s/ Emmett T. Cunningham, Jr., M.D.</u> Emmett T. Cunningham, Jr., M.D.	Director	June 12, 2020
<u>/s/ Chad A. Johnson</u> Chad A. Johnson	Director	June 12, 2020
<u>/s/ Kevin Lalande</u> Kevin Lalande	Director	June 12, 2020
<u>/s/ Joseph McCracken</u> Joseph McCracken	Director	June 12, 2020
<u>/s/ Thoms A. Raffin, M.D.</u> Thomas A. Raffin, M.D.	Director	June 12, 2020
<u>/s/ Lota S. Zoth</u> Lota S. Zoth	Director	June 12, 2020

Exhibit 5.1

June 12, 2020

Lumos Pharma, Inc.
4200 Marathon Boulevard, Suite 200
Austin, Texas 78756

Ladies and Gentlemen:

We have acted as counsel to Lumos Pharma, Inc., a Delaware corporation (the “**Company**”), in connection with the preparation of a Registration Statement on Form S-3 (the “**Registration Statement**”) to be filed on the date hereof by the Company with the United States Securities and Exchange Commission (the “**Commission**”), for the registration under the Securities Act of 1933, as amended (the “**Securities Act**”), of the resale of an aggregate of 4,146,398 shares (the “**Shares**”) of common stock, par value \$0.01 per share, of the Company. All of the Shares were issued or are issuable pursuant to the terms of the Agreement and Plan of Merger and Reorganization, dated as of September 30, 2019, by and among the Company, Cyclone Merger Sub, Inc., a wholly-owned subsidiary of the Company, and Lumos Pharma Sub, Inc., formerly known as Lumos Pharma, Inc. (as amended, the “**Merger Agreement**”) and are being registered for resale on behalf of certain stockholders of the Company including their donees, pledgees, transferees or other successors-in-interest (the “**Selling Stockholders**”).

We, as the Company’s counsel in connection with the registration for resale of the Shares, have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable for the purpose of rendering this opinion, including, without limitation, the Registration Statement and the Merger Agreement. We are opining herein as to the general corporation law of the State of Delaware (including the statutory provisions, all applicable provisions of the Delaware Constitution and reported judicial decisions interpreting the foregoing), and we express no opinion with respect to the applicability thereto, or the effect thereon, of the laws of any other jurisdiction or, in the case of Delaware, any other laws, or as to any matters of municipal law or the laws of any local agencies within any state.

In our examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; and (iv) the legal capacity of all natural persons. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company. In making our examination of documents executed or to be executed, we have assumed that the counterparties thereto, excluding the Company, have been duly organized and are, and will continue to be, validly existing and in good standing, and have or will have the requisite legal status and legal capacity under the laws of their respective jurisdictions of incorporation or organization and had or will have the power, corporate or other, to enter into and perform all obligations thereunder and have also assumed the due authorization by all requisite action, corporate or other, and execution and delivery by such parties of such documents and the validity and binding effect thereof on such parties.

Based upon the foregoing, we advise you that, in our opinion, the Shares have been duly authorized by the Company and are validly issued, fully paid and nonassessable.

In connection with the opinions expressed above, we have assumed that (a) the Company shall remain validly existing as a corporation in good standing under the laws of the State of Delaware; (b) the Registration Statement, and any further amendments thereto (including post-effective amendments) shall comply with all applicable laws and shall have become effective under the Securities Act and such effectiveness shall not have been terminated or rescinded; (c) a prospectus has been or will have been prepared and filed with the Commission with respect to the Shares offered thereby; and (d) all Shares will be issued and sold in compliance with applicable U.S. federal and state securities laws and in the manner stated in the Registration Statement and the related prospectus.

austin beijing boston brussels hong kong los angeles new york palo alto
san diego san francisco seattle shanghai washington, dc wilmington, de

Lumos Pharma, Inc.
June 12, 2020
Page 2

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement referred to above and further consent to the reference to our name under the caption "Legal Matters" in the prospectus, which is a part of the Registration Statement. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

/s/ Wilson Sonsini Goodrich & Rosati, Professional Corporation

**austin beijing boston brussels hong kong los angeles new york palo alto
san diego san francisco seattle shanghai washington, dc wilmington, de**

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Lumos Pharma, Inc.:

We consent to the use of our report dated April 10, 2020, with respect to the balance sheets of Lumos Pharma, Inc. as of December 31, 2019 and 2018, the related statements of operations, changes in redeemable convertible preferred stock and stockholders' deficit, and cash flows for the years then ended, and the related notes, incorporated herein by reference and to the reference to our firm under the heading "Experts" in the prospectus.

/s/ KPMG LLP

Austin, Texas
June 12, 2020

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Lumos Pharma, Inc.:

We consent to the use of our report dated March 3, 2020, with respect to the consolidated balance sheets of NewLink Genetics Corporation as of December 31, 2019 and 2018, the related consolidated statements of operations, equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes, incorporated herein by reference and to the reference to our firm under the heading "Experts" in the prospectus.

/s/ KPMG LLP

Austin, Texas
June 12, 2020