Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3 **REGISTRATION STATEMENT**

UNDER

THE SECURITIES ACT OF 1933

KURA ONCOLOGY, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)

12730 High Bluff Drive, Suite 400 San Diego, CA 92130 (858) 500-8800

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

Troy E. Wilson, Ph.D., J.D. President and Chief Executive Officer Kura Oncology, Inc. 12730 High Bluff Drive, Suite 400 San Diego, CA 92130 (858) 500-8800

Copies to: Charles J. Bair, Esq. Wade W. Andrews, Esq. Cooley LLP 10265 Science Center Drive San Diego, CA 92121 (858) 550-6000

From time to time after the effective date of this Registration Statement (Approximate date of commencement of proposed sale to the public)

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. \boxtimes

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. \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

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.

X Large accelerated filer Non-accelerated filer

Accelerated filer Smaller reporting company

Emerging growth company

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

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.

61-1547851 (I.R.S. Employer Identification Number)

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

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 FEBRUARY 9, 2024

PROSPECTUS



Common Stock

This prospectus relates to the offer and resale from time to time of up to an aggregate of 8,695,699 shares of our common stock, par value \$0.0001 per share (the "Resale Shares"), of which 1,376,813 shares are issued and outstanding and 7,318,886 shares (the "Warrant Shares") are issuable upon the exercise of pre-funded warrants to purchase shares of common stock, by the selling stockholders named herein, together with any additional selling stockholders listed in a prospectus supplement (together with any of such stockholders' transferees, pledgees, donees or successors).

We are registering the offer and sale of the Resale Shares from time to time by the selling stockholders to satisfy the registration rights they were granted in connection with the issuance of the Resale Shares and pre-funded warrants to purchase Resale Shares (the "Pre-Funded Warrants"). We are not selling any Resale Shares and will not receive any proceeds from the sale of the Resale Shares by the selling stockholders.

The selling stockholders may offer and sell or otherwise dispose of the Resale Shares described in this prospectus 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. The selling stockholders will bear all underwriting fees, commissions and discounts, if any, attributable to the sales of Resale Shares and any transfer taxes. We will bear all other costs, expenses and fees in connection with the registration of the Resale Shares. See "Plan of Distribution" for more information about how the selling stockholders may sell or dispose of their Resale Shares.

Our common stock is listed on The Nasdaq Global Select Market under the trading symbol "KURA." On February 8, 2024, the last reported sale price of our common stock was \$20.33 per share.

Investing in shares of our common stock involves a high degree of risk. You should review carefully the risks and uncertainties described in the section titled "Risk Factors" on page 4 of this prospectus and any similar section contained in any applicable prospectus supplement or amendment to this prospectus, and under similar headings in the documents that are incorporated by reference into this prospectus.

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

, 2024.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the "SEC") using a "shelf" registration process. Under this shelf process, certain selling stockholders may from time to time sell the shares of common stock described in this prospectus in one or more offerings or otherwise as described under "Plan of Distribution."

This prospectus may be supplemented from time to time by one or more prospectus supplements. Any prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you must rely on the information in the prospectus supplement. You should carefully read both this prospectus and any applicable prospectus supplement together with additional information described under the heading "Where You Can Find Additional Information" before deciding to invest in any shares being offered.

Neither we nor the selling stockholders have authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus or in any related prospectus supplement or any free writing prospectus that we have authorized. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The shares are not being offered in any jurisdiction where the offer is not permitted. You should not assume that the information contained in or incorporated by reference in this prospectus is accurate as of any date other than the respective dates of such document. Our business, financial condition, results of operations and prospects may have changed since those dates.

Throughout this prospectus, the terms "we," "us," "our," and our "company" refer to Kura Oncology, Inc.

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PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus or incorporated by reference in this prospectus, and does not contain all of the information that you need to consider in making your investment decision. For a more complete understanding of our company, you should carefully read and consider the more detailed information included or incorporated by reference in this prospectus and, any applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading "Risk Factors" on page 4 of this prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

Overview

We are a clinical-stage biopharmaceutical company committed to realizing the promise of precision medicines for the treatment of cancer. Our pipeline consists of small molecule product candidates that target cancer signaling pathways where there is a strong scientific and clinical rationale to improve outcomes, and we intend to pair them with molecular or cellular diagnostics to identify those patients most likely to respond to treatment. We are conducting clinical trials of three product candidates: ziftomenib, tipifarnib and KO-2806. We also have additional programs that are at a discovery stage. We own global commercial rights to all of our programs and product candidates. We plan to advance our product candidates through a combination of internal development and strategic partnerships while maintaining significant development and commercial rights.

Private Placement

On January 24, 2024, we entered into a securities purchase agreement (the "Securities Purchase Agreement") with the selling stockholders named in this prospectus, pursuant to which we issued and sold to such selling stockholders in a private placement (the "Private Placement") (i) an aggregate of 1,376,813 shares (the "Shares") of our common stock at a purchase price of \$17.25 per share, and (ii), in lieu of Shares, to certain selling stockholders, pre-funded warrants (the "Pre-Funded Warrants") to purchase up to an aggregate of 7,318,886 shares of our common stock (the "Warrant Shares") at a purchase price of \$17.2499 per Pre-Funded Warrant (representing the \$17.25 per Share purchase price less the exercise price of \$0.0001 per Warrant Share). The Pre-Funded Warrants are exercisable at any time after their original issuance and will not expire.

Leerink Partners LLC acted as the sole placement agent for the Private Placement. The Private Placement closed on January 26, 2024. We received aggregate gross proceeds from the Private Placement of approximately \$150.0 million, before deducting estimated offering expenses payable by us.

The Pre-Funded Warrants issued in the Private Placement provide that the holder of the Pre-Funded Warrants will not have the right to exercise any portion of its Pre-Funded Warrants if such holder, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to such exercise (the "Beneficial Ownership Limitation"); provided, however, that the holder may increase or decrease the Beneficial Ownership Limitation by giving 61 days' notice to us, but not to any percentage in excess of 19.99%.

In connection with the Private Placement, we entered into a registration rights agreement ("the Registration Rights Agreement") with the selling stockholders named in this prospectus pursuant to which we agreed to file a registration statement covering the resale of the Shares and the Warrant Shares by no later than February 23, 2024 (the "Filing Deadline"). We agreed to use reasonable efforts to cause such registration statement to become

effective as soon as practicable, but in any event no later than the 30th calendar day following the filing of the registration statement (or, in the event of a "limited" or a "full review" by the SEC, the 45th or 60th day, respectively, following such filing date). We also agreed to use reasonable efforts to keep such registration statement effective until the date the Shares and Warrant Shares covered by such registration statement have been sold or may be resold pursuant to Rule 144 without restriction.

For more information regarding the Private Placement, see our Current Report on Form 8-K filed with the SEC on January 26, 2024 and incorporated herein by reference.

Corporate Information

We were originally incorporated in the State of Delaware in November 2007 under the name "Zeta Acquisition Corp. III," ("Zeta"). Zeta was a "shell" company registered under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), with no specific business plan or purpose until it began operating the business of Kura Oncology, Inc., a privately held company incorporated in Delaware ("Prior Kura"), through a reverse merger transaction on March 6, 2015. Prior Kura was incorporated in the State of Delaware in August 2014 to focus primarily on discovering and developing personalized therapeutics for the treatment of solid tumors and blood cancers.

Our corporate headquarters are located at 12730 High Bluff Drive, Suite 400, San Diego, California 92130, and our telephone number is (858) 500-8800. We also occupy offices in Boston, Massachusetts and lab space in San Diego, California. We maintain a website at www.kuraoncology.com. We do not incorporate by reference into this prospectus the information on, or accessible through, our website, and you should not consider it as part of this prospectus.

The Offering

Common stock offered by the selling stockholders	8,695,699 shares of our common stock, consisting of (i) 1,376,813 Shares and (ii) 7,318,886 Warrant Shares issuable upon the exercise of the Pre-Funded Warrants, all of which were issued by us in the Private Placement pursuant to the Securities Purchase Agreement.
Terms of the offering	Each selling stockholder will determine when and how it will sell the common stock offered in this prospectus, as described in "Plan of Distribution."
Use of proceeds	We will not receive any proceeds from the Shares covered by this prospectus. We will, however, receive the net proceeds of any Pre-Funded Warrants exercised for cash.
Risk factors	See "Risk Factors" on page 4 for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Nasdaq Global Select Market symbol	"KURA"

The selling stockholders named in this prospectus may offer and sell up to 8,695,699 shares of our common stock. Our common stock is currently listed on The Nasdaq Global Select Market under the symbol "KURA." Shares of our common stock that may be offered under this prospectus will be fully paid and non-assessable. We will not receive any of the proceeds of sales by the selling stockholders of any of the common stock covered by this prospectus. We will, however, receive the exercise price of \$0.0001 per share of the Pre-Funded Warrants exercised for cash. Throughout this prospectus, when we refer to the shares of our common stock being

registered on behalf of the selling stockholders for offer and resale, we are referring to the Shares and Warrant Shares issuable upon exercise of the Pre-Funded Warrants that were issued in connection with the Private Placement as described above. When we refer to the selling stockholders in this prospectus, we are referring to the selling stockholders identified in this prospectus and, as applicable, their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described under the heading "Risk Factors" contained in our most recent Annual Report on Form 10-K and in our subsequent Quarterly Reports on Form 10-Q, as filed with the SEC, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety, together with other information in this prospectus, the documents incorporated by reference and any free writing prospectus that we may authorize for use in connection with this offering. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below titled "Special Note Regarding Forward-Looking Statements."

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents we have filed with the SEC that are incorporated by reference contain "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. These statements relate to future events or to our future operating or financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements may include, but are not limited to, statements about:

- the initiation, cost, timing, progress and results of our research and development activities, clinical trials and preclinical studies;
- the early stage of products under development;
- the timing of and our ability to obtain and maintain regulatory approval of our existing product candidates, any product candidates that we may develop, any clinical holds established by any relevant regulatory bodies and any related restrictions, limitations, and/or warnings in the label of any approved product candidates;
- our plans to research, develop and commercialize our future product candidates;
- our ability to attract collaborators with development, regulatory and commercialization expertise;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- our ability to successfully commercialize our product candidates;
- the size and growth of the markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of any future products;
- the success of competing drugs that are or become available;
- government regulation;
- regulatory developments in the United States and other countries;
- the performance of our third-party suppliers and manufacturers and our ability to obtain alternative sources of raw materials;
- our ability to obtain additional financing;
- our use of cash, cash equivalents, investments and other resources;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and the need for additional financing; and
- our ability to attract and retain key management, scientific or clinical personnel.

In some cases, you can identify forward-looking statements by terms such as "anticipates," "believes," "could," "estimates," "intends," "may," "plans," "potential," "will," "would," or the negative of these terms or other similar expressions. These statements reflect our current views with respect to future events and are based on assumptions and are subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements as predictions of future events. We discuss in greater detail many of these risks in our most recent Annual Report on Form 10-K and in our most recent Quarterly Report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

You should read this prospectus, together with the documents we have filed with the SEC that are incorporated by reference, any prospectus supplement and any free writing prospectus that we may authorize completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale or other disposition of shares of our common stock in this offering. The selling stockholders will receive all of the proceeds from the sale of shares of common stock hereunder. Upon any exercise of the Pre-Funded Warrants for cash, the applicable selling stockholder would pay us the exercise price set forth in the Pre-Funded Warrants.

We will bear the out-of-pocket costs, expenses and fees incurred in connection with the registration of shares of our common stock to be sold by the selling stockholders pursuant to this prospectus. Other than registration expenses, the selling stockholders will bear their own broker or similar commissions payable with respect to sales of shares of our common stock.

SELLING STOCKHOLDERS

The shares of common stock being offered by the selling stockholders are those (i) issued to the selling stockholders in the Private Placement and (ii) issuable to the selling stockholders upon exercise of the Pre-Funded Warrants issued in the Private Placement. For additional information regarding the issuance of the shares of common stock and Pre-Funded Warrants, see the section "Prospectus Summary—Private Placement" above. We are registering the resale of shares of common stock issued to the selling stockholders and issuable upon exercise of the Pre-Funded Warrants in order to permit the selling stockholders to offer the shares for resale from time to time. None of the selling stockholders or any persons having control over such selling stockholders has held any position or office with us or our affiliates within the last three years or has had a material relationship with us or any of our predecessors or affiliates within the past three years, other than as a result of the ownership of our shares or other securities.

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 table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock by each of the selling stockholders. This information has been obtained from the selling stockholders or in Schedules 13G or 13D and other public documents filed with the SEC. The second column lists the number of shares of common stock beneficially owned by each selling stockholder, based on its ownership of shares of common stock and warrants, as of January 31, 2024, assuming exercise of the warrants held by the selling stockholders on that date, subject to any limitations on exercises. The percentage of shares owned prior to and after the offering in the third and sixth columns are based on 76,136,963 shares of common stock outstanding as of January 31, 2024. The fifth and six columns assume the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

In accordance with the terms of the Registration Rights Agreement, this prospectus generally covers the resale of the sum of (i) the number of shares of common stock issued to the selling stockholders in the Private Placement and (ii) the maximum number of shares of common stock issuable upon exercise of the Pre-Funded Warrants issued in the Private Placement. This maximum amount is determined as if the outstanding Pre-Funded Warrants were exercised in full as of the trading day immediately preceding the date this registration statement was initially filed with the SEC, subject to adjustment as provided in the Registration Rights Agreement and without regard to any limitations on the exercise of the warrants. Under the terms of the Pre-Funded Warrants, a selling stockholder may not exercise the Pre-Funded Warrants to the extent such exercise would cause such selling stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of common stock which would exceed 9.99% of the number of shares of common stock to be issued upon the applicable exercise of such Pre-Funded Warrant). The number of shares in the second and fifth columns reflect this limitation. The selling stockholders may sell all, some or none of their shares in this offering. See the section "Plan of Distribution."

Unless otherwise indicated, the address for each selling stockholder is c/o Kura Oncology, Inc., 12730 High Bluff Drive, Suite 400, San Diego, CA 92130.

	Before Offering				ffering
	Number of Shares Beneficially	Percentage of Shares Beneficially	Maximum Number of Shares	Number of Shares Beneficially	Percentage of Shares Beneficially
Name of Selling Stockholder	Owned	Owned	Offered	Owned	Owned
Entities Affiliated with EcoR1 Capital, LLC(1)	7,683,597	9.99%	5,797,136	7,683,597	9.99%
Entities Affiliated with BVF Partners L.P.(2)	7,631,926	9.99%	840,585	7,373,228	9.68%
Deerfield Partners, L.P.(3)	5,839,229	7.63%	840,583	4,998,646	6.57%

	Before (Offering	After O	ffering	
	Number of Shares Beneficially	Percentage of Shares Beneficially	Maximum Number of Shares	Number of Shares Beneficially	Percentage of Shares Beneficially
Name of Selling Stockholder	Owned	Owned	Offered	Owned	Owned
Entities Affiliated with Suvretta Capital Management, LLC(4)	7,657,927	9.99%	840,583	7,420,120	9.64%
Invus Public Equities, L.P.(5)	2,069,884	2.72%	376,812	1,693,072	2.22%

(1)Consists of (i) 5,477,622 shares of common stock and 775,926 shares of common stock underlying other pre-funded warrants held by EcoR1 Capital Fund Qualified, L.P. ("Qualified Fund"), and 1,038,200 shares of common stock that Qualified Fund has the right to acquire pursuant to certain call option contracts, which are immediately exercisable, and (ii) 329,249 shares of common stock held by EcoR1 Capital Fund, L.P. ("Capital Fund", and together with Qualified Fund, the "EcoR1 Capital Funds"), and 62,600 shares of common stock that Capital Fund has the right to acquire pursuant to certain call option contracts, which are immediately exercisable. EcoR1 Capital, LLC ("EcoR1") is the general partner of the EcoR1 Capital Funds. Oleg Nodelman is the control person of EcoR1 and may be deemed to share voting and investment power over the shares held by the EcoR1 Capital Funds. Mr. Nodelman and EcoR1 both disclaim beneficial ownership of all shares except to the extent of their pecuniary interest. The Pre-Funded Warrants and other pre-funded warrants may not be exercised to the extent such exercise would cause the EcoR1 Capital Funds, together with their affiliates, to beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to such exercise. Due to the Beneficial Ownership Limitation, the beneficial ownership in the "Before Offering" columns excludes an aggregate of (i) 5,797,136 Warrant Shares underlying Pre-Funded Warrants and (ii) 1,397,987 shares of common stock underlying other pre-funded warrants, and the beneficial ownership in the "After Offering" columns excludes an aggregate of 1,397,987 shares of common stock underlying other pre-funded warrants. The number in the column "Maximum Number of Shares Offered" consists of (i) 5,469,598 Warrant Shares underlying Pre-Funded Warrants held by Qualified Fund and (ii) 327,538 Warrant Shares underlying Pre-Funded Warrants held by Capital Fund. The address of each entity is 357 Tehama Street #3, San Francisco, CA.

Consists of (i) 3,801,949 shares of common stock and 258,698 Warrant Shares underlying Pre-Funded Warrants held by Biotechnology Value (2)Fund, L.P. ("BVF"), (ii) 3,081,519 shares of common stock held by Biotechnology Value Fund II, L.P. ("BVF2"), (iii) 379,147 shares of common stock held by Biotechnology Value Trading Fund OS LP ("BVFOS"), and (iv) 110,613 shares of common stock held by MSI BVF SPV, LLC ("MSI", and together with BVF, BVF2 and BVFOS, the "BVF Funds"). BVF I GP LLC is the general partner of BVF and may be deemed to beneficially own the shares of common stock and Warrant Shares held by BVF. BVF II GP LLC is the general partner of BVF2 and may deemed to beneficially own the shares of common stock and Warrant Shares held by BVF2. BVF Partners OS Ltd. is the general partner of BVFOS and may be deemed to beneficially own the shares of common stock and Warrant Shares held by BVFOS. BVF GP Holdings LLC is the sole member of BVF I GP LLC and BVF II GP LLC and may be deemed to beneficially own the shares of common stock and Warrant Shares held by BVF and BVF2. BVF Partners L.P. is the sole member of BVF Partners OS Ltd. and investment manager of BVF, BVF2, BVFOS and MSI and may be deemed to beneficially own the shares of common stock and Warrant Shares held by BVF, BVF2, BVFOS and MSI. BVF Inc. is the general partner of BVF Partners L.P. and may be deemed to beneficially own the shares of common stock and Warrant Shares beneficially owned by BVF Partners L.P. Mark N. Lampert is director and officer of BVF Inc. and may be deemed to beneficially own the shares of common stock and Warrant Shares beneficially owned by BVF Inc. Each of BVF I GP LLC, BVF II GP LLC, BVF Partners OS Ltd., BVF GP Holdings LLC, BVF Partners L.P. BVF Inc. and Mr. Lampert disclaims beneficial ownership of securities beneficially owned by BVF, BVF2, BVFOS and MSI. The Pre-Funded Warrants may not be exercised to the extent such exercise would cause the BVF Funds, together with their affiliates, to beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to such exercise. Due to the Beneficial Ownership Limitation, the beneficial ownership in the "Before Offering" columns excludes an aggregate of 581,887 Warrant shares

underlying Pre-Funded Warrants. The number in the column "Maximum Number of Shares Offered" consists of (i) 503,833 Warrant Shares underlying Pre-Funded Warrants held by BVF, (ii) 282,760 Warrant Shares underlying Pre-Funded Warrants held by BVF2, (iii) 45,504 Warrant Shares underlying Pre-Funded Warrants held by BVFOS, and (iv) 8,488 Warrant Shares underlying Pre-Funded Warrants held by MSI. The address of each entity is 44 Montgomery Street, 40th Floor, San Francisco, CA 94104.

- (3) Consists of 5,418,936 shares of common stock and 420,293 Warrant Shares underlying Pre-Funded Warrants. The number in the column "Maximum Number of Shares Offered" consists of 420,290 shares of common stock and 420,293 Warrant Shares underlying Pre-Funded Warrants. The general partner of Deerfield Partners, L.P. is Deerfield Mgmt, L.P. Deerfield Management Company, L.P. is the investment manager of Deerfield Partners, L.P. James E. Flynn is the sole member of the general partner of each of Deerfield Mgmt, L.P. and Deerfield Management Company, L.P. Each of Mr. Flynn and the entities listed in this footnote may be deemed to share voting and investment power over the shares held or beneficially owned by such person or entity. Notwithstanding the number of shares reported, the selling stockholder disclaims beneficial ownership of the shares of common stock issuable upon exercise of such Pre-Funded Warrants to the extent that upon such exercise the number of shares beneficially owned by the selling stockholder would exceed the Beneficial Ownership Limit. The address of Deerfield Partners, L.P. is 345 Park Avenue South, 11th Floor, New York, NY 10010.
- (4) Consists of (i) 6,769,763 shares of common stock and 440,105 shares of common stock underlying other pre-funded warrants held by Averill Master Fund, ii) 369,199 shares of common stock and 78,860 shares of common stock underlying other pre-funded warrants held by Averill Madison Master Fund, Ltd. ("Averill Madison Fund" and, together with Averill Master Fund, the "Averill Funds"). The Pre-Funded Warrants and other pre-funded warrants may not be exercised to the extent such exercise would cause the Averill Funds, together with their affiliates, to beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to such exercise. Due to the Beneficial Ownership Limitation, the beneficial ownership in the "Before Offering" columns excludes an aggregate of (i) 260,872 Warrant shares underlying Pre-Funded Warrants and (ii) 341,904 shares of common stock underlying other pre-funded warrants. The number in the column "Maximum Number of Shares Offered" consists of (i) 579,711 shares of common stock and 135,630 Warrant Shares underlying Pre-Funded Warrants held by Averill Master Fund and (ii) 125,242 Warrant Shares underlying Pre-Funded Warrants held by Averill Madison Fund. Suvretta Capital Management, LLC is the investment manager of the Averill Funds. Aaron Cowen is a control person of Suvretta Capital Management, LLC and as such may be deemed to beneficially own these shares. The address of Suvretta Capital Management, LLC is 540 Madison Avenue, 7th Floor, New York, NY 10022.
- (5) Consists of 2,069,884 shares of common stock held by Invus Public Equities, L.P. ("Invus PE"). The number in the column "Maximum Number of Shares Offered" consists of 376,812 shares of common stock. Invus Public Equities Advisors, LLC ("Invus PE Advisors") controls Invus PE, as its general partner and accordingly, may be deemed to beneficially own the shares of common stock held by Invus PE. The Geneva branch of Artal International S.C.A. ("Artal International") controls Invus PE Advisors, as its managing member and accordingly, may be deemed to beneficially own the shares of common stock held by Invus PE. Artal International Management S.A. ("Artal International Management"), as the managing partner of Artal International, controls Artal International and accordingly, may be deemed to beneficially own the shares of common stock that Artal International may be deemed to beneficially own. Artal Group S.A. ("Artal Group"), as the sole stockholder of Artal International Management, controls Artal International Management and accordingly, may be deemed to beneficially own the shares of common stock that Artal International Management may be deemed to beneficially own. Westend S.A. ("Westend"), as the parent company of Artal Group, controls Artal Group and accordingly, may be deemed to beneficially own the shares of common stock that Artal Group and accordingly, may be deemed to beneficially own the shares of common stock that Artal Group may be deemed to beneficially own. Stichting Administratiekantoor Westend (the "Stichting"), as majority shareholder of Westend, controls Westend and accordingly, may be deemed to beneficially own the shares of common stock that Westend may be deemed to beneficially own the shares of common stock that the Stichting may be deemed to beneficially own. The address for Invus PE and Invus PE Advisors is 750 Lexington



Avenue, 30th Floor, New York, NY 10022. The address for Artal International, Artal International Management, Artal Group, Westend and Mr. Wittouck is Valley Park, 44, Rue de la Vallée, L-2661, Luxembourg. The address for the Stichting is Claude Debussylaan, 46, 1082 MD Amsterdam, The Netherlands.

PLAN OF DISTRIBUTION

We are registering the shares of our common stock held by the selling stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of our common stock.

The term "selling securityholders" includes donees, pledgees, transferees or other successors in interest selling securityholders received after the date of this prospectus from a selling securityholder as a gift, pledge, partnership distribution or other transfer. The selling securityholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on the principal trading market for our common stock or any other stock exchange, market or trading facility on which our common stock is traded or in private transactions. These sales may be at fixed or negotiated prices. A selling stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker dealer solicits purchasers;
- block trades in which the broker dealer will attempt to sell the common stock 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;
- settlement of short sales;
- distribution to employees, members, limited partners or stockholders of the selling securityholders;
- in transactions through broker dealers that agree with the selling stockholders to sell a specified number of such common stock at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- by pledge to secured debts and other obligations;
- delayed delivery arrangements;
- to or through underwriters or broker-dealers;
- in "at the market" offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on a national securities exchange or sales made through a market maker other than on an exchange or other similar offerings through sales agents;
- in privately negotiated transactions;
- in options transactions;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell the shares of our common stock under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

In addition, a selling securityholder that is an entity may elect to make a pro rata in-kind distribution of securities to its members, partners or stockholders pursuant to the registration statement of which this prospectus is a part by delivering a prospectus with a plan of distribution. Such members, partners or stockholders would

thereby receive freely tradeable securities pursuant to the distribution through a registration statement. To the extent a distribute is our affiliate (or to the extent otherwise required by law), we may, at our option, file a prospectus supplement in order to permit the distributes to use the prospectus to resell the securities acquired in the distribution.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of our common stock, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with Financial Industry Regulatory Authority ("FINRA") Rule 5110; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. 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 our common stock in the course of hedging the positions they assume. The selling stockholders may also sell our common stock short and deliver these shares to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these shares. The selling stockholders may also enter into option or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution, may effect sales of the pledged securities pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In effecting sales, broker-dealers or agents engaged by the selling stockholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the selling securityholders in amounts to be negotiated immediately prior to the sale.

Any broker-dealers or agents that are involved in selling the securities may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares of our common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the shares of our common stock.

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares of our common stock. We and the selling stockholders have agreed to indemnify each other against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares of our common stock may not simultaneously engage in market making activities with respect to our common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of our common stock by the selling stockholders or any other person. We will make copies of this

prospectus available to the selling stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

At the time a particular offer of securities is made, if required, a prospectus supplement will be distributed that will set forth the number of securities being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallowed or paid to any dealer, and the proposed selling price to the public.

LEGAL MATTERS

Cooley LLP, San Diego, California, will pass upon the validity of the shares of common stock offered hereby.

EXPERTS

Ernst & Young LLP, an independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2022, and the effectiveness of our internal control over financial reporting as of December 31, 2022, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, 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 maintain a website at www.kuraoncology.com. Information contained in or accessible through our website does not constitute a part of this prospectus and is not incorporated by reference into this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus, while information that we file later with the SEC will automatically update and supersede the information in this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-37620):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 filed with the SEC on February 23, 2023;
- the information specifically incorporated by reference into our <u>Annual Report</u> on Form 10-K for the fiscal year ended December 31, 2022 from our <u>definitive proxy statement</u> on Schedule 14A (other than information furnished rather than filed) filed with the SEC on April 6, 2023;
- our Quarterly Reports on Form 10-Q for the quarterly period ended March 31, 2023, filed with the SEC on <u>May 10, 2023</u>, for the quarterly period ended June 30, 2023, filed with the SEC on <u>August 9, 2023</u>, and for the quarterly period ended September 30, 2023, filed with the SEC on <u>November 2, 2023</u>;
- our Current Reports on Form 8-K filed with the SEC (other than information furnished rather than filed) on January 9, 2023, January 13, 2023, April 19, 2023, June 2, 2023, June 12, 2023, June 14, 2023, September 1, 2023, December 22, 2023, January 26, 2024 and January 30, 2024; and
- the description of our common stock, which is registered under Section 12 of the Exchange Act, in our registration statement on Form 8-A, filed with the SEC on November 4, 2015, including any amendments or reports filed for the purpose of updating such description.

All filings filed by us pursuant to the Exchange Act after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the shares of our common stock made by this prospectus and will become a part of this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with this prospectus, including exhibits which are specifically incorporated by reference into such documents. You should direct any requests for documents by writing us at 12730 High Bluff Drive, Suite 400, San Diego, California 92130 Attn: Secretary or by telephoning us at (858) 500-8800.



Common Stock

PROSPECTUS

PART II INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth an estimate of the fees and expenses payable by us in connection with the sale of the securities being registered.

	Amount
SEC registration fees	\$ 26,324.29
Accounting fees and expenses	\$ 15,000.00
Legal fees and expenses	\$ 100,000.00
Miscellaneous fees and expenses	\$ 8,675.71
Total	\$ 150,000.00

Item 15. Indemnification of Directors and Officers

We are incorporated under the laws of the State of Delaware. Section 145 of the General Corporation Law of the State of Delaware ("DGCL") provides that a Delaware corporation may indemnify any persons who were, are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who were, are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses (including attorneys' fees) actually and reasonably incurred.

Our amended and restated certificate of incorporation, as amended, and amended and restated bylaws provide for the indemnification of our directors and officers to the fullest extent permitted under the DGCL.

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- 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
- breach of a director's duty of loyalty to the corporation or its stockholders.

Our amended and restated certificate of incorporation, as amended, includes such a provision. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by us upon delivery to us of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by us.

Section 174 of the DGCL provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption may be held liable for such actions. A director who was either absent when the unlawful actions were approved, or dissented at the time, may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

As permitted by the DGCL, we have entered into indemnity agreements with each of our directors and executive officers, that require us to indemnify such persons against any and all costs and expenses (including attorneys', witness or other professional fees) actually and reasonably incurred by such person in connection with any action, suit or proceeding (including derivative actions), whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director or officer or is or was acting or serving as an officer, director, employee or agent of us or any of our affiliated enterprises, provided that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

We have an insurance policy in place that covers our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act, or otherwise.

Item 16. Exhibits

		Exhibit	File Date
Form 8-K	001-37620	3.1	June 14, 2017
Form 8-K	001-37620	3.2	June 14, 2017
Form 8-K	001-37620	4.1	March 12, 2015
Form 10-Q	001-37620	4.3	August 10, 2016
Form 10-K	001-37620	4.3	February 23, 2023
Form 10-K	001-37620	4.4	February 23, 2023
	Form 8-K Form 8-K Form 10-Q Form 10-K	Form 8-K 001-37620 Form 8-K 001-37620 Form 10-Q 001-37620 Form 10-K 001-37620	Form 8-K 001-37620 3.2 Form 8-K 001-37620 4.1 Form 10-Q 001-37620 4.3 Form 10-K 001-37620 4.3

Exhibit Number	Exhibit Description	Schedule / Form	File Number		File Date
4.5	Warrant Agreement, dated as of November 29, 2022, by and between the Registrant and Hercules Capital IV, L.P.	Form 10-K	001-37620	4.5	February 23, 2023
4.6	Form of Pre-Funded Warrant issued by the Registrant on June 16, 2023.	Form 8-K	001-37620	4.1	June 14, 2023
4.7	Form of Pre-Funded Warrant issued by the Registrant on January 26, 2024.	Form 8-K	001-37620	4.1	January 26, 2024
4.8	Securities Purchase Agreement, dated January 24, 2024, by and among the Registrant and the persons party thereto.	Form 8-K	001-37620	10.1	January 26, 2024
4.9*	Registration Rights Agreement, dated January 26, 2024, by and among the Registrant and the persons party thereto.	Form 8-K	001-37620	10.2	January 26, 2024
5.1	Opinion of Cooley LLP				Filed Herewith
23.1	Consent of Ernst & Young LLP, independent registered public accounting <u>firm</u>				Filed Herewith
23.2	Consent of Cooley LLP (included in Exhibit 5.1).				Filed Herewith
24.1	Power of Attorney (see signature page to this registration statement)				Filed Herewith
107	Filing Fee Table				Filed Herewith

* Schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the SEC upon request.

Item 17. Undertakings

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 a 20% 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 (1)(i), (1)(ii) and (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 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:

(i) 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

(ii) 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 the 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 that 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 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.

(5) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A (§230.430A of this chapter), shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; *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 will, as to a purchaser with a time of contract of sale prior to such first use, 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 date of first use.

(6) That, for the purpose 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.

(7) 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 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 of 1933 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-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on February 9, 2024.

KURA ONCOLOGY, INC.

By: /s/ Troy E. Wilson, Ph.D., J.D.

Troy E. Wilson, Ph.D., J.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 Troy E. Wilson, Ph.D., J.D. and Thomas Doyle, and each of them, as true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for them and in their name, place and stead, in any and all capacities, to sign any and all amendments (including pre-effective and post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and generally to do all such things in their names and behalf in their capacities as officers and directors to enable Kura Oncology, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, 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 below by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Troy E. Wilson, Ph.D., J.D. Troy E. Wilson, Ph.D., J.D.	President, Chief Executive Officer and Chairman of the Board of Directors (Principal Executive and Financial Officer)	February 9, 2024
/s/ Thomas Doyle Thomas Doyle	Senior Vice President, Finance & Accounting (Principal Accounting Officer)	February 9, 2024
/s/ Helen Collins, M.D. Helen Collins, M.D.	Director	February 9, 2024
/s/ Faheem Hasnain Faheem Hasnain	Director	February 9, 2024
/s/ Thomas Malley Thomas Malley	Director	February 9, 2024

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Signature	Title	Date
/s/ Diane Parks Diane Parks	Director	February 9, 2024
/s/ Carol Schafer Carol Schafer	Director	February 9, 2024
/s/ Mary Szela Mary Szela	Director	February 9, 2024



Charles J. Bair +1 858 550-6142 cbair@cooley.com

February 9, 2024

Kura Oncology, Inc. 12730 High Bluff Dr Suite 400 San Diego, CA 92130

Ladies and Gentlemen:

We have acted as counsel to Kura Oncology, Inc., a Delaware corporation (the "Company"), in connection with the filing of a Registration Statement on Form S-3 (the "*Registration Statement*") by the Company with the Securities and Exchange Commission (the "*Commission*") under the Securities Act of 1933, as amended (the "*Securities Act*"), including a related prospectus included in the Registration Statement (the "*Prospectus*"), covering the registration for resale of up to 8,695,699 shares of the Company's Common Stock, par value \$0.0001 per share (the "*Common Stock*"), consisting of (i) 1,376,813 shares (the "*Shares*") of Common Stock issued by the Company and (ii) up to 7,318,886 shares (the "*Warrant Shares*") of Common Stock issuable upon the exercise of pre-funded warrants to purchase shares of Common Stock (the "*Warrants*"). The Shares and the Warrants were issued by the Company pursuant to that certain Securities Purchase Agreement (the "*Purchase Agreement*") dated as of January 24, 2024.

In connection with this opinion, we have examined and relied upon the Registration Statement, the Prospectus, the Purchase Agreement, the Warrants, the Company's certificate of incorporation and bylaws, each as currently in effect, and such other records, documents, opinions, certificates, memoranda and instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials, and the due authorization, execution and delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

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

With respect to the Warrant Shares, we express no opinion to the extent that future issuances of securities of the Company, adjustments to outstanding securities of the Company or other matters cause the Warrants to be exercisable for more shares of Common Stock than the number available for issuance by the Company. Further, we have assumed that the exercise price of the Warrants will not be adjusted to an amount below the par value per share of the Common Stock.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that (i) the Shares are validly issued, fully paid and nonassessable, and (ii) the Warrant Shares, when issued and paid for in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable.

Our opinion is limited to the matters expressly set forth in this letter, and no opinion should be implied, or may be inferred, beyond the matters expressly stated. This opinion speaks only as to law and facts in effect or existing as of the date hereof, and we have no obligation or responsibility to update or supplement this letter to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

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We hereby consent to the reference to our firm under the caption "Legal Matters" in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

Cooley LLP

By: /s/ Charles J. Bair Charles J. Bair

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Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in this Registration Statement (Form S-3) and related Prospectus of Kura Oncology, Inc. for the registration of 8,695,699 shares of its common stock and to the incorporation by reference therein of our reports dated February 23, 2023, with respect to the financial statements of Kura Oncology, Inc., and the effectiveness of internal control over financial reporting of Kura Oncology, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2022, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

February 9, 2024

Calculation of Filing Fee Tables

Form S-3 (Form Type)

Kura Oncology, 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 Share	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Equity	Common Stock, par value \$0.0001 per share	457(c)	8,695,699(2)	\$20.51(3)	\$178,348,786.49	0.0001476	\$26,324.29
		Total Of	fering Am	ounts		\$178,348,786.49		\$26,324.29
	Total Fees Previously Paid				_		—	
	Total Fee Offsets				—		\$26,324.29(4)	
		Net	Fees Due					\$0

- (1) Represents the shares of common stock, \$0.0001 par value per share of Kura Oncology, Inc. (the "Registrant") that will be offered for resale by the selling stockholder pursuant to the prospectus to which this exhibit is attached. Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), the shares being registered hereunder include such indeterminate number of additional shares of common stock as may be issuable as a result of stock splits, stock dividends or similar transactions with respect to the shares being registered hereunder.
- (2) Consists of an aggregate of 8,695,699 shares of the Registrant's common stock, including 7,318,886 shares of common stock issuable upon the exercise of pre-funded warrants of the Registrant.
- (3) This estimate is made pursuant to Rule 457(c) of the Securities Act solely for purposes of calculating the registration fee. The price per share and aggregate offering price are based upon the average of the high and low prices of the Registrant's common stock on February 5, 2024, as reported on the Nasdaq Global Select Market.
- (4) On August 6, 2020, the Registrant filed a registration statement on Form S-3, declared effective on August 18, 2020 (File No. 333-241663) (the "2020 S-3"), registering the issuance of up to \$300,000,000 of common stock, preferred stock, debt securities and warrants (the "2020 Securities"). The registration fee associated with the 2020 Securities was \$38,940. The 2020 S-3 was terminated and the Registrant has not sold any 2020 Securities pursuant to the 2020 S-3. The Registrant previously applied \$15,339.92 in registration fees previously paid by the Registrant with respect to 2020 Securities that were registered but not issued pursuant to the 2020 S-3 to a registration statement on Form S-3ASR (File No. 333-275279) filed by the Registrant on November 2, 2023. Accordingly, the remaining unused registration fee paid in connection with the 2020 S-3 and the 2020 Securities is \$23,600.08.

On February 24, 2022, the Registrant filed a prospectus supplement to its registration statement on Form S-3ASR, filed on December 7, 2020 (File No. 333-251172) (the "2020 S-3ASR"), registering the issuance of up to \$150,000,000 of common stock (the "2022 Securities"). The registration fee associated with the 2022 Securities was \$13,905. The 2020 S-3ASR was terminated and the Registrant has not sold any 2022 Securities pursuant to the 2020 S-3ASR. Accordingly, the unused registration fee paid in connection with the 2020 S-3ASR and the 2022 Securities is \$13,905.

Pursuant to Rule 457(p) under the Securities Act, the registration fee applicable to the \$178,348,786.49 of common stock of the Registrant being registered hereby in the amount of \$26,324.29 is offset by (i) \$23,600.08 in registration fees previously paid by the Registrant with respect to 2020 Securities that were registered but not issued pursuant to the 2020 S-3 and (ii) \$2,724.21 in registration fees previously paid by the Registrant with respect to 2022 Securities that were registered but not issued pursuant to the 2020 S-3ASR. Accordingly, no registration fees are being paid at this time.

Table 2: Fee Offset Claims and Sources

	Registrant or Filer Name	Form or Filing Type	File Number	Initial Filing Date	Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source
					R	ule 457(p)					
Fee Offset Claims	Kura Oncology, Inc.	S-3	333-241663	8/6/2020		\$23,600.08 (1)	Equity	Common Stock	N/A	\$300,000,000 (1)	
Fee Offset Sources	Kura Oncology, Inc.	S-3	333-241663		8/6/2020						\$23,600.08 (1)
Fee Offset Claims	Kura Oncology, Inc.	S-3ASR	333-251172	12/7/2020		\$2,724.21 (1)	Equity	Common Stock	N/A	\$150,000,000 (1)	
Fee Offset Sources	Kura Oncology, Inc.		333-251172		2/24/2022						\$2,724.21 (1)

(1) See Note (4) under Table 1 above.