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

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**FORM S-8**  
**REGISTRATION STATEMENT**  
*UNDER THE SECURITIES ACT OF 1933*

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**KURA ONCOLOGY, INC.**  
(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**61-1547851**  
(I.R.S. Employer  
Identification No.)

**11119 North Torrey Pines Road, Suite 125**  
**La Jolla, CA**  
(Address of Principal Executive Offices)

**92037**  
(Zip Code)

**Amended and Restated 2014 Equity Incentive Plan**  
**2015 Employee Stock Purchase Plan**  
(Full titles of the plans)

**Troy E. Wilson, Ph.D., J.D.**  
**President and Chief Executive Officer**  
**Kura Oncology, Inc.**  
**11119 North Torrey Pines Road, Suite 125**  
**La Jolla, California 92037**  
**(858) 500-8800**  
(Name, address, and telephone number, including area code, of agent for service)

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*Copies to:*

**Charles J. Bair, Esq.**  
**James C. Pennington, Esq.**  
**Cooley LLP**  
**4401 Eastgate Mall**  
**San Diego, California 92121**  
**Tel: (858) 550-6000**

**Heidi Henson**  
**Chief Financial Officer and Secretary**  
**Kura Oncology, Inc.**  
**11119 North Torrey Pines Road, Suite 125**  
**La Jolla, California 92037**  
**(858) 500-8800**

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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" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

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**CALCULATION OF REGISTRATION FEE**

<b>Title of Securities to be Registered</b>	<b>Amount to be Registered(1)</b>	<b>Proposed Maximum Offering Price Per Share(2)</b>	<b>Proposed Maximum Aggregate Offering Price(2)</b>	<b>Amount of Registration Fee</b>
<b>Amended and Restated 2014 Equity Incentive Plan</b>				
Common Stock, \$0.0001 par value per share	854,822 <sup>(3)</sup>	\$4.08	\$3,487,673.76	\$351.21
<b>2015 Employee Stock Purchase Plan</b>				
Common Stock, \$0.0001 par value per share	213,705 <sup>(4)</sup>	\$4.08	\$871,916.40	\$87.81
<b>Total</b>	<b>1,068,527</b>	<b>N/A</b>	<b>\$4,359,590.16</b>	<b>\$439.02</b>

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- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement shall also cover any additional shares of the Registrant’s Common Stock (“Common Stock”) that become issuable under the Kura Oncology, Inc. Amended and Restated 2014 Equity Incentive Plan (the “2014 Plan”) or the Kura Oncology, Inc. 2015 Employee Stock Purchase Plan (the “2015 ESPP”) by reason of any stock dividend, stock split, recapitalization or other similar transaction.
  - (2) This estimate is made pursuant to Rule 457(h)(1) and 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 Common Stock on March 15, 2016, as reported on the NASDAQ Global Select Market.
  - (3) Represents shares of Common Stock that were automatically added to the shares authorized for issuance under the 2014 Plan on January 1, 2016 pursuant to an “evergreen” provision contained in the 2014 Plan. Pursuant to such provision, on January 1 of each year, from January 1, 2016 through January 1, 2025, the number of shares authorized for issuance under the 2014 Plan is automatically increased by: (a) a number equal to 4% of the total number of shares of the Registrant’s capital stock outstanding on December 31 of the preceding calendar year; or (b) a number of shares of Common Stock that may be determined by the Registrant’s Board of Directors (the “Board”) that is less than the preceding clause (a).
  - (4) Represents shares of Common Stock that were automatically added to the shares authorized for issuance under the 2015 ESPP on January 1, 2016 pursuant to an “evergreen” provision contained in the 2015 ESPP. Pursuant to such provision, on January 1 of each year, from January 1, 2016 through January 1, 2025, the number of shares authorized for issuance under the 2015 ESPP is automatically increased by a number equal to the lesser of: (a) 1% of the total number of shares of the Registrant’s capital stock outstanding on December 31 of the preceding calendar year; (b) 2,000,000 shares of Common Stock; or (c) a number of shares of Common Stock that may be determined by the Board that is less than the preceding clauses (a) and (b).
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## INCORPORATION OF DOCUMENTS BY REFERENCE

This Registration Statement is being filed for the purpose of increasing the number of securities of the same class as other securities for which a Registration Statement of the Registrant on Form S-8 relating to the same employee benefit plans is effective.

The Registrant previously registered shares of its Common Stock for issuance under the 2014 Plan and the 2015 ESPP under a Registration Statement on Form S-8 filed with the Securities and Exchange Commission (the "Commission") on April 17, 2015 (File No. 333-203504). Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of the Registration Statement referenced above.

### Item 8. Exhibits.

<b>Exhibit Number</b>	<b>Description</b>
4.1 <sup>(1)</sup>	Amended and Restated Certificate of Incorporation of the Registrant.
4.2 <sup>(2)</sup>	Amended and Restated Bylaws of the Registrant.
4.3 <sup>(3)</sup>	Form of Common Stock Certificate of the Registrant.
5.1	Opinion of Cooley LLP.
23.1	Consent of Independent Registered Public Accounting Firm.
23.2	Consent of Cooley LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page hereto.
99.1 <sup>(4)</sup>	Kura Oncology, Inc. Amended and Restated 2014 Equity Incentive Plan and Forms of Stock Option Agreement, Notice of Exercise and Stock Option Grant Notice thereunder.
99.2 <sup>(5)</sup>	Form of Restricted Stock Purchase Agreement and Restricted Stock Purchase Award Notice under the Kura Oncology, Inc. Amended and Restated 2014 Equity Incentive Plan.
99.3 <sup>(6)</sup>	Kura Oncology, Inc. 2015 Employee Stock Purchase Plan.
(1)	Previously filed as Exhibit 3.1 to the Registrant's Registration Statement on Form S-1, filed with the Commission on April 17, 2015, and incorporated herein by reference.
(2)	Previously filed as Exhibit 3.5 to the Registrant's Current Report on Form 8-K, filed with the Commission on March 12, 2015 (containing Items 1.01, 2.01, 3.02, 4.01, 5.01, 5.02, 5.03, 5.06 and 9.01), and incorporated herein by reference.
(3)	Previously filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the Commission on March 12, 2015 (containing Items 1.01, 2.01, 3.02, 4.01, 5.01, 5.02, 5.03, 5.06 and 9.01), and incorporated herein by reference.
(4)	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the Commission on March 12, 2015 (containing Items 1.01, 2.01, 3.02, 4.01, 5.01, 5.02, 5.03, 5.06 and 9.01), and incorporated herein by reference.
(5)	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed with the Commission on March 12, 2015 (containing Items 1.01, 2.01, 3.02, 4.01, 5.01, 5.02, 5.03, 5.06 and 9.01), and incorporated herein by reference.
(6)	Previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K, filed with the Commission on March 12, 2015 (containing Items 1.01, 2.01, 3.02, 4.01, 5.01, 5.02, 5.03, 5.06 and 9.01), and incorporated herein by reference.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of La Jolla, State of California, on March 17, 2016.

**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 Heidi Henson, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Troy E. Wilson, Ph.D., J.D.</u> <b>Troy E. Wilson, Ph.D., J.D.</b>	President, Chief Executive Officer and Chairman of the Board of Directors <i>(Principal Executive Officer)</i>	March 17, 2016
<u>/s/ Heidi Henson</u> <b>Heidi Henson</b>	Chief Financial Officer and Secretary <i>(Principal Financial and Accounting Officer)</i>	March 17, 2016
<u>/s/ Faheem Hasnain</u> <b>Faheem Hasnain</b>	Director	March 17, 2016
<u>/s/ Robert E. Hoffman</u> <b>Robert E. Hoffman</b>	Director	March 17, 2016
<u>/s/ Thomas Malley</u> <b>Thomas Malley</b>	Director	March 17, 2016

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**Exhibit 5.1**

March 17, 2016

Kura Oncology, Inc.  
11119 North Torrey Pines Road, Suite 125  
La Jolla, CA 92037

Ladies and Gentlemen:

You have requested our opinion, as counsel to KURA ONCOLOGY, INC., a Delaware corporation (the "Company"), with respect to certain matters in connection with the filing by the Company of a Registration Statement on Form S-8 (the "Registration Statement") with the Securities and Exchange Commission, covering the offering of an aggregate of up to 1,068,527 shares of the Company's Common Stock, \$0.0001 par value (the "Shares"), including 854,822 shares issuable pursuant to the Company's Amended and Restated 2014 Equity Incentive Plan (the "Incentive Plan") and 213,705 shares issuable pursuant to the Company's 2015 Employee Stock Purchase Plan (the "Employee Plan").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectuses, the Incentive Plan, the Employee Plan, the Company's Amended and Restated Certificate of Incorporation and Bylaws, and the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as copies thereof. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware.

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

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

Sincerely,

Cooley LLP

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

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

4401 Eastgate Mall, San Diego, CA 92121 T: (858) 550-6000 F: (858) 550-6420 www.cooley.com

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Amended and Restated 2014 Equity Incentive Plan and the 2015 Employee Stock Purchase Plan of Kura Oncology, Inc. of our report dated March 17, 2016, with respect to the financial statements of Kura Oncology, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2015, filed with the Securities and Exchange Commission.

San Diego, California      /s/ Ernst & Young LLP  
March 17, 2016