

November 28, 2017

United States Securities and Exchange Commission  
Division of Corporate Finance  
100 F Street, N.E.  
Washington, D.C. 20549  
Attn: Jeffrey Gabor

**Re: Kura Oncology, Inc.  
Registration Statement on Form S-3  
Filed November 9, 2017  
File No. 333-221479**

Dear Mr. Gabor:

Enclosed on behalf of our client, Kura Oncology, Inc. (the "**Company**"), is a first amendment to registration statement on Form S-3 (the "**Amended Registration Statement**"). The Amended Registration Statement updates the Company's registration statement on Form S-3 (the "**Registration Statement**") originally filed with the Securities and Exchange Commission (the "**Commission**") on November 9, 2017. The copy of the Amended Registration Statement that is enclosed with the paper copy of this letter is marked to show changes from the Registration Statement filed on November 9, 2017.

The Amended Registration Statement is being submitted in response to an oral comment received from the staff of the Commission (the "**Staff**") via a telephone call on November 16, 2017 with respect to the Registration Statement, which comment we have included in this response letter for convenience.

**Staff Comment and Company Response**

1. *Reference is made in footnote 2 to the Calculation of Registration Fee table that the securities registered may be sold separately or as units with other securities. Please revise the cover page to include the units in the fee tables, include in the registration statement a description of the units and revise the legal opinion to advise on the units. Alternatively, please remove the reference to the units.*

**Response:** The Company acknowledges the Staff's comment and has revised footnote 2 to the Calculation of Registration Fee table to remove the reference to the units.

The Company respectfully requests the Staff's assistance in completing the review of the Amended Registration Statement as soon as possible. Please advise us if we can provide any further information or assistance to facilitate your review. Please direct any further comments or questions regarding the Amended Registration Statement or this response letter to me at (858) 550-6142.

Sincerely,

Cooley LLP

/s/ Charles J. Bair, Esq.

Charles J. Bair, Esq.

cc: Heidi Henson, Kura Oncology, Inc.  
Annette North, Kura Oncology, Inc.  
James Pennington, Cooley LLP