



Brent B. Siler
(202) 728-7040
bsiler@cooley.com

VIA EDGAR

August 17, 2015

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Mail Stop 4720
Washington, D.C. 20549

Attn: Mr. Jeffrey Riedler
Mr. John Krug
Mr. Preston Brewer
Ms. Christine Torney
Mr. Jim Rosenberg

Re: **Aclaris Therapeutics, Inc.**
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted May 14, 2015
CIK No. 0001557746

Ladies and Gentlemen:

On behalf of our client, Aclaris Therapeutics, Inc. (the "**Company**"), we are responding to the comments (the "**Comments**") of the staff (the "**Staff**") of the Securities and Exchange Commission (the "**Commission**") contained in its letter dated May 26, 2015 (the "**Comment Letter**"), relating to the above referenced confidential Draft Registration Statement on Form S-1 (the "**Draft Registration Statement**"). In response to the Comments set forth in the Comment Letter, the Company has revised the Draft Registration Statement and filed a Registration Statement on Form S-1 (the "**S-1**") on today's date with the Commission, along with this response letter. For the Staff's reference, we are also delivering both a clean copy of the S-1 and a copy marked to show all changes from the Draft Registration Statement confidentially submitted on May 14, 2015.

Set forth below are the Company's responses to the Comments. The numbering of the paragraphs below corresponds to the numbering of the Comments, which for your convenience we have incorporated into this response letter. Page references in the text of this response letter correspond to the page numbers of the S-1. Capitalized terms used but not defined herein are used herein as defined in the S-1.

Notes to Financial Statements

3. Fair Value of Financial Assets and Liabilities, page F-13

1. Refer to your response to our prior comment 16. Your disclosure is confusing and does not appear to meet the objective in ASC 820-10-50-2bbb to disclose, for each "class," the valuation technique(s) and inputs used in your Level 2 fair value measurement. In



August 17, 2015
Page 2

this regard, your disclosure says the Company primarily relied on quoted prices for identical securities in markets that are not active while it also refers to "models used." Please clarify to indicate, by class of security, the extent to which you used quoted prices versus models. For quoted prices, indicate if prices are adjusted and if so, the nature of the adjustment. For each model, describe the model and the inputs used.

Response to Comment 1:

In response to the Staff's comment, the Company has revised the disclosure on page F-14 of the S-1 to clarify that the Company relies on quoted prices for identical securities in markets that are not active in determining the fair value of its corporate debt securities and U.S. government agency debt securities. As indicated in the disclosure on page F-14 of the S-1, the Company has not made adjustments to quoted prices. The Company advises the Staff that it and its third-party pricing service do not use valuation models to determine the fair value of its corporate debt securities or U.S. government agency debt securities.



Please direct any questions or comments concerning the S-1 or this response letter to either the undersigned at (202) 728-7040 or Brian F. Leaf at (703) 456-8053.

Very truly yours,

/s/ Brent B. Siler

Brent B. Siler

cc: Neal Walker, Aclaris Therapeutics, Inc.
Kamil Ali-Jackson, Aclaris Therapeutics, Inc.
Divakar Gupta, Cooley LLP
Brian F. Leaf, Cooley LLP
Peter N. Handrinos, Latham & Watkins LLP
Nathan Ajiashvili, Latham & Watkins LLP
