

November 27, 2018

Alison Lawton
Chief Executive Officer
Kaleido Biosciences, Inc.
65 Hayden Avenue
Lexington, MA 02421

Re: Kaleido Biosciences, Inc.
Amendment No. 2 to Draft Registration Statement on Form S-1
Submitted November 21, 2018
CIK No. 0001751299

Dear Ms. Lawton:

We have reviewed your amended draft registration statement and have the following comment.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to this comment and your amended draft registration statement or filed registration statement, we may have additional comments.

Amendment No. 2 to Draft Registration Statement on Form S-1 submitted on November 21, 2018

Prospectus Summary
Overview, page 1

1. We note your response to our prior comment one that you anticipate beginning clinical trials under an IND prior to commencing the roadshow. However, to the extent you do not begin clinical trials by the time you publicly file your registration statement, please revise the first sentence of the first paragraph to clarify that you are a non-IND clinical stage healthcare company.

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You may contact Keira Nakada at 202-551-3659 or Jim Rosenberg at 202-551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Irene Paik at 202-551-6553 or Erin Jaskot at 202-551-3442 with any other questions.

Sincerely,

FirstName LastNameAlison Lawton
Corporation Finance
Comapany NameKaleido Biosciences, Inc.

Division of

Office of Healthcare

& Insurance
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cc: Kingsley L. Taft - Goodwin Procter LLP
FirstName LastName