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May 10, 2015

VIA EDGAR AND OVERNIGHT COURIER

U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Attn: Anne Nguyen Parker, Assistant Director
Julie Griffith
Stephen Kim
Doug Jones

**Re: Arcadia Biosciences, Inc.
Registration Statement on Form S-1
Filed on February 17, 2015
File No. 333-202124**

Ladies and Gentlemen:

We are submitting this letter on behalf of our client, Arcadia Biosciences, Inc. (“we,” “us” or the “**Company**”), in response to the comments from the staff (the “**Staff**”) of the Securities and Exchange Commission (the “**Commission**”) received by letter dated May 8, 2015, relating to the Registration Statement on Form S-1 (the “**Registration Statement**”) filed on February 17, 2015 and previously amended on April 6, 2015 and April 30, 2015. Amendment No. 3 to the Registration Statement (“**Amendment No. 3**”) is being filed concurrently herewith. The numbered paragraphs below correspond to the numbered comments in the Staff’s letter and the Staff’s comments are presented in bold italics. We have enclosed with the copy of this letter that is being transmitted via overnight delivery six (6) copies of Amendment No. 3 in paper format, which have been marked to show changes from the Registration Statement as last amended on April 30, 2015.

Prospectus Summary, page 1

- Please briefly disclose in the Summary that up to 72% of the company’s stock will be held by Moral Compass Corporation and Mandela Capital following the offering.***

In response to the Staff’s comment, the Company has added disclosure in the Summary on page 6 of Amendment No. 3 to disclose that up to 72% of the Company’s stock will be held by Moral Compass Corporation and Mandala Capital following the offering.

- Further, please disclose in the Summary the dilution that will occur as a result of the disparity between the price that the public shareholders are likely to pay in the offering and the net book value of the shares.***

In response to the Staff’s comment, the Company has added disclosure in the Summary on page 6 of Amendment No. 3 to disclose the dilution that public shareholders will experience as a result of the offering.

Use of Proceeds, page 38

- Please state the respective amounts for the estimated expenses and underwriting discounts and commissions in arriving at the estimated net proceeds of the offering.***

In response to the Staff’s comment, the Company has added disclosure on page 38 of Amendment No. 3 under Use of Proceeds that discloses the respective amounts for the estimated expenses and underwriting discounts and commissions used in the calculation of estimated net proceeds of the offering.

Capitalization, page 39

- Please revise the pro forma information here and elsewhere in the filing as appropriate to reflect the debt activity subsequent to December 31, 2014, as disclosed under Liquidity and Capital Resources and note 16 of the notes to the financial statements, including all related impacts on cash.***

In response to the Staff’s comment, the Company has revised the pro forma information on pages 11, 39 and 40 of Amendment No. 3 to reflect the Company’s debt activity subsequent to December 31, 2014, as currently disclosed under Liquidity and Capital Resources and note 16 of the notes to the

financial statements, including all related impacts on cash.

Index to Consolidated Financial Statements, page F-1

5. ***Please note the requirement pursuant to Rule 8-08 of Regulation S-X to update the financial statements included in the filing should the filing not become effective on or before May 14, 2015.***

The Company advises the Staff that it is aware of the requirement pursuant to Rule 8-08 of Regulation S-X and notes that it has submitted an acceleration request requesting that the Commission declare the Registration Statement effective at 4:30 p.m. Eastern Time on May 12, 2015. The Company further advises the Staff that its reverse stock split was effected on May 8, 2015 and Amendment No. 3 now reflects that the stock split has occurred, and includes an unlegended audit opinion of Deloitte & Touche LLP as well as an updated auditor's consent and related exhibits.

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Please direct your questions or comments regarding the Company's responses or Amendment No. 3 to the undersigned at (415) 773-4140 or by email at kdempsey@orrick.com or, in my absence, to Christopher Austin at (212) 506-5234 or by email at caustin@orrick.com.

Sincerely,

ORRICK, HERRINGTON & SUTCLIFFE, LLP

/s/ Karen A. Dempsey

Karen A. Dempsey

cc: Eric J. Rey, Arcadia Biosciences, Inc.
Wendy S. Neal, Arcadia Biosciences, Inc.
Christopher Austin, Orrick, Herrington & Sutcliffe, LLP
Drew Williamson, Cooley LLP

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