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

**Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

ARCADIA BIOSCIENCES, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

2870
(Primary Standard Industrial
Classification Code Number)

81-0571538
(I.R.S. Employer
Identification No.)

202 Cousteau Place, Suite 105
Davis, CA 95618
(530) 756-7077
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Matthew T. Plavan
President and Chief Executive Officer
202 Cousteau Place, Suite 105
Davis, CA 95618
(530) 756-7077
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:

Matthew T. Plavan
Chief Executive Officer
202 Cousteau Place, Suite 105
Davis, CA 95618

Michael De Angelis, Esq.
Jeffrey Pietsch, Esq.
Weintraub Chediak Coleman Grodin Law Corporation
400 Capitol Mall, Suite 1100
Sacramento, CA 95814

Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934.

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for comply with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share(2)	Aggregate maximum offering price	Amount of registration fee(2)
Common Stock, \$0.001 value per share	725,356	\$5.30	\$3,844,387	\$499.00

- (1) Represents shares of common stock, par value \$0.001 per share, which may be sold by the selling stockholders named in this registration statement. Pursuant to Rule 416 under the Securities Act of 1933, as amended, this registration statement also covers an indeterminate amount of shares of common stock as may become issuable to prevent dilution resulting from stock splits, stock dividends or similar events.
- (2) Calculated pursuant to Rule 457(c) of the Securities Act of 1933, as amended, solely for the purpose of computing the amount of the registration fee, on the basis of the average of the high and low prices of the registrant's common stock quoted on The Nasdaq Stock Market on December 5, 2019.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

Subject To Completion, Dated December 11, 2019

Prospectus

ARCADIA BIOSCIENCES, INC.

725,356

Common Stock

Pursuant to this prospectus, the selling stockholders identified herein are offering on a resale basis an aggregate of 725,356 shares of our common stock that are issuable upon the exercise of outstanding warrants to purchase our common stock. These warrants were issued in connection with a private placement we completed on September 10, 2019. We will not receive any of the proceeds from the sale by the selling stockholders of the common stock. Upon any exercise of the warrants by payment of cash, however, we will receive the exercise price of the warrants.

The selling stockholders may sell or otherwise dispose of the common stock covered by this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholders may sell or otherwise dispose of the common stock covered by this prospectus in the section entitled “Plan of Distribution” on page 7. Discounts, concessions, commissions and similar selling expenses attributable to the sale of common stock covered by this prospectus will be borne by the selling stockholders. We will pay all expenses (other than discounts, concessions, commissions and similar selling expenses) relating to the registration of the common stock with the Securities and Exchange Commission.

Our common stock is listed on the NASDAQ Capital Market under the symbol “RKDA.” On December 5, 2019, the last reported sale price of our common stock was \$5.29 per share.

INVESTING IN OUR SECURITIES INVOLVES RISKS. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES DESCRIBED UNDER THE HEADING “[RISK FACTORS](#)” CONTAINED ON PAGE 2 HEREIN AND IN OUR ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2018, AS WELL AS OUR SUBSEQUENTLY FILED PERIODIC AND CURRENT REPORTS, WHICH WE FILE WITH THE SECURITIES AND EXCHANGE COMMISSION AND ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS. YOU SHOULD READ THE ENTIRE PROSPECTUS CAREFULLY BEFORE YOU MAKE YOUR INVESTMENT DECISION.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is .

TABLE OF CONTENTS

	<u>Page</u>
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	1
ABOUT THIS PROSPECTUS	1
ABOUT ARCADIA BIOSCIENCES, INC.	1
RISK FACTORS	2
REGISTERED OFFERING AND PRIVATE PLACEMENT OF SECURITIES	2
WHERE YOU CAN FIND ADDITIONAL INFORMATION	2
INCORPORATION OF INFORMATION BY REFERENCE	2
SELLING STOCKHOLDERS	3
DESCRIPTION OF OUR CAPITAL STOCK	4
USE OF PROCEEDS	7
PLAN OF DISTRIBUTION	7
LEGAL MATTERS	8
EXPERTS	8
INTERESTS OF NAMED EXPERTS AND COUNSEL	8

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements in this prospectus and in any prospectus supplement we may file constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These statements relate to future events concerning our business and to our future revenues, operating results and financial condition. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “believe,” “estimate,” “forecast,” “predict,” “propose,” “potential” or “continue,” or the negative of those terms or other comparable terminology.

Any forward looking statements contained in this prospectus or any prospectus supplement are only estimates or predictions of future events based on information currently available to our management and management’s current beliefs about the potential outcome of future events. Whether these future events will occur as management anticipates, whether we will achieve our business objectives, and whether our revenues, operating results or financial condition will improve in future periods are subject to numerous risks. There are a number of important factors that could cause actual results to differ materially from the results anticipated by these forward-looking statements. These important factors include those that we discuss under the heading “Risk Factors” and in other sections of our Annual Report on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission (SEC), as well as in our other reports filed from time to time with the SEC that are incorporated by reference into this prospectus. You should read these factors and the other cautionary statements made in this prospectus and in the documents we incorporate by reference into this prospectus as being applicable to all related forward-looking statements wherever they appear in this prospectus or the documents we incorporate by reference into this prospectus. If one or more of these factors materialize, or if any underlying assumptions prove incorrect, our actual results, performance or achievements may vary materially from any future results, performance or achievements expressed or implied by these forward-looking statements. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-1 that we filed with the SEC using a continuous offering process.

You should read this prospectus and the information and documents incorporated by reference carefully. Such documents contain important information you should consider when making your investment decision. See “Where You Can Find Additional Information” and “Incorporation of Information by Reference” in this prospectus.

You should rely only on the information provided in this prospectus or documents incorporated by reference into this prospectus. We have not authorized anyone to provide you with different information. This prospectus covers offers and sales of our common stock only in jurisdictions in which such offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock. You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front cover of this prospectus, or that the information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security.

In this prospectus, we refer to Arcadia Biosciences, Inc. as “we,” “us,” “our,” the “Company” or “RKDA.” You should rely only on the information we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus.

ABOUT ARCADIA BIOSCIENCES, INC.

We are a consumer-driven, agricultural food ingredient company. We aim to create value across the agricultural production and supply chain beginning with enhanced crop productivity for farmers and ultimately to deliver accelerated innovation in nutritional quality consumer foods. We use state of the art gene-editing technology and advanced breeding techniques to naturally enhance the nutritional quality of grains and oilseeds to address the rapidly evolving trends in consumer health and nutrition. In addition, we have developed a broad pipeline of high value crop productivity traits designed to enhance farm economics.

Table of Contents

We were founded in 2002, and our principal executive offices are located at 202 Cousteau Place, Suite 105, Davis, CA 95618. Our telephone number is (530) 756-7077. Our website is located at www.arcadiabio.com. Information contained on, or that can be accessed through, our website is not part of this prospectus.

RISK FACTORS

An investment in our common stock involves risks. Prior to making a decision about investing in our common stock, you should consider carefully the risks together with all of the other information contained or incorporated by reference in this prospectus, including any risks in the section entitled "Risk Factors" contained in any supplements to this prospectus and in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and in our subsequent filings with the SEC. Each of the referenced risks and uncertainties could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities. Additional risks not known to us or that we believe are immaterial may also adversely affect our business, operating results and financial condition and the value of an investment in our securities.

REGISTERED OFFERING AND PRIVATE PLACEMENT OF SECURITIES

On September 10, 2019, we completed the closing of a registered direct offering with several institutional investors, or Investors, for the sale of a total of 1,318,828 shares of our common stock at a price per share of \$7.52, for aggregate gross proceeds of \$9.92 million.

In a concurrent private placement, or Private Placement, we sold to the Investors warrants, or Private Placement Warrants, to purchase a total of 659,414 shares of our common stock at an exercise price of \$7.52 per share which are exercisable for five and one half years following the closing date. Each Private Placement Warrant was sold at a price of \$0.125 per underlying share of common stock, for total gross proceeds of \$0.08 million. The closing of the Private Placement occurred on September 10, 2019. H.C. Wainwright & Co., LLC, or Wainwright, served as the sole placement agent for the Private Placement. In connection with the Private Placement, we also issued to certain designees of Wainwright warrants, or Wainwright Warrants, for the purchase of a total of 65,942 shares of our common stock at an exercise price per share of \$9.4781 pursuant to the terms of our letter agreement with Wainwright. The Wainwright Warrants are exercisable for five years from the date of issuance. The shares underlying the Private Placement Warrants and the Wainwright Warrants, or together the Warrants, are being registered for resale hereunder.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are required to file annual, quarterly and special reports, proxy statements and other information with the SEC. Our filings with the SEC are also available to the public at the SEC's Internet web site at <http://www.sec.gov>.

We have filed a registration statement, of which this prospectus is a part, covering the securities offered hereby. As allowed by SEC rules, this prospectus does not include all of the information contained in the registration statement and the included exhibits, financial statements and schedules. You are referred to the registration statement, the included exhibits, financial statements and schedules for further information. This prospectus is qualified in its entirety by such other information.

We are subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and, in accordance therewith, file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available to the public over the Internet at the website of the SEC referred to above. We maintain a website at <http://www.arcadiabio.com>. The reference to our website address does not constitute incorporation by reference of the information contained on our website, and you should not consider the contents of our website in making an investment decision with respect to our common stock.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this prospectus, and certain information that we will later file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below, as well as any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act from the date of the initial registration statement and prior to the effectiveness of this registration statement, and any filings made after the date of this prospectus until we sell all of the securities under this prospectus, except that we

[Table of Contents](#)

do not incorporate any document or portion of a document that was furnished and deemed by the rules of the SEC not to have been filed:

- Our annual report on [Form 10-K](#) for the fiscal year ended December 31, 2018, filed with the SEC on April 1, 2019;
- Our quarterly reports on Form 10-Q for the quarters ended [March 31, 2019](#), [June 30, 2019](#) and [September 30, 2019](#), filed with the SEC on May 8, 2019, August 14, 2019 and November 6, 2019, respectively;
- Our Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on [February 13, 2019](#), [February 28, 2019](#), [March 27, 2019](#), [May 8, 2019](#), [May 24, 2019](#), [June 7, 2019](#), [June 14, 2019](#), [August 9, 2019](#), [August 14, 2019](#), [August 28, 2019](#), [September 9, 2019](#), [September 13, 2019](#), [October 4, 2019](#), [October 7, 2019](#) and [November 6, 2019](#);
- Our Proxy Statement on [DEF 14A](#), filed with the SEC on April 18, 2019; and
- The description of our common stock contained in our [Form 8-A/A](#) filed with the SEC on May 14, 2015, including any amendment or report filed for the purpose of updating such description.

Additionally, all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, except as to any portion of any report or document that is not deemed filed under such provisions, (i) on or after the date of filing of the registration statement containing this prospectus and prior to effectiveness of the registration statement and (ii) on or after the date of this prospectus and until the earlier of the date on which all the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed to be incorporated by reference in this prospectus and to be part hereof from the date of filing of such reports and other documents. Any information that we subsequently file with the SEC that is incorporated by reference as described above will automatically update and supersede any previous information that is part of this prospectus. Nothing in this prospectus shall be deemed to incorporate information furnished but not filed with the SEC pursuant to Items 2.02, 7.02 or 9.01 of Form 8-K.

Upon written or oral request, we will provide without charge to each person to whom a copy of the prospectus is delivered a copy of the documents incorporated by reference herein (other than exhibits to such documents, unless such exhibits are specifically incorporated by reference herein). You may request a copy of these filings, at no cost, by writing or telephoning us at the following address: Arcadia Biosciences, Inc., 202 Cousteau Place, Suite 105, Davis, CA 95618, Attention: Corporate Secretary, Telephone (530) 750-7191.

SELLING STOCKHOLDERS

This prospectus covers the possible resale by the selling stockholders identified in the table below of 725,356 shares of common stock issuable upon the exercise of the Warrants. The selling stockholders may sell some, all or none of their shares of common stock. We do not know how long the selling stockholders will hold the Warrants, whether any will exercise the Warrants, and upon such exercise, how long such selling stockholders will hold the shares of common stock before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale of any of the shares.

The following table presents information regarding the selling stockholders and the shares that each may offer and sell from time to time under this prospectus. The table is prepared based on information supplied to us by the selling stockholders without regard to ownership limitations set forth in the applicable agreements or other documents relating to such shares, including (i) all of the shares offered hereby, and (ii) to our knowledge, all other securities held by each of the selling stockholders as of the date hereof, and reflects their respective holdings as of November 4, 2019. Except for the ownership of shares of capital stock and as described below, each selling stockholder has not had any material relationship with us within the past three years. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and Rule 13d-3 thereunder. The percentage of shares beneficially owned prior to the offering is based on 8,646,149 shares of our common stock actually outstanding as of November 4, 2019.

<u>Name of Selling Stockholder</u>	<u>Shares Beneficially Owned Before this Offering</u>	<u>Shares to be Sold in this Offering</u>	<u>Shares Beneficially Owned After Offering</u>	
			<u>Number</u>	<u>Percentage</u>
Armistice Capital Master Fund, Ltd.	395,648(1)	395,648	—	—
Anson Investments Master Fund LP	263,766(2)	263,766	—	—
Michael Vasinkevich (7)	145,626(3)	42,533	103,093	1.17%
Noam Rubinstein (7)	70,899(4)	20,772	50,127	*
Mark Viklund (7)	6,301(5)	1,978	4,323	*
Charles Worthman (7)	2,250(6)	659	1,591	*

* Represents beneficial ownership of less than one percent.

Table of Contents

- (1) Includes 395,648 shares of common stock issuable upon exercise of warrants. Mr. Steven Boyd is Managing Member of Armistice Capital, LLC, the Investment Manager of Armistice Capital Master Fund Ltd. and, in such capacity, may be deemed to have voting and dispositive power over the securities held for the account of Armistice Capital Master Fund Ltd.
- (2) Includes 263,766 shares of common stock issuable upon exercise of warrants. Anson Advisors Inc. and Anson Funds Management LP, the Co-Investment Advisers of Anson Investments Master Fund LP (“Anson”), hold voting and dispositive power over the shares held by Anson. Bruce Winson is the managing member of Anson Management GP LLC, which is the general partner of Anson Funds Management LP. Moez Kassam and Amin Nathoo are directors of Anson Advisors Inc. Mr. Winson, Mr. Kassam and Mr. Nathoo each disclaim beneficial ownership of these shares except to the extent of their pecuniary interest therein.
- (3) Includes (i) 103,093 shares of common stock issuable upon exercise of warrants issued in connection with a private placement of our common stock and warrants in March 2018 (the “March 2018 Offering”), a private placement of our warrants in June 2018 (the “June 2018 Offering”) and a private placement of our warrants in June 2019 (the “June 2019 Offering”) and (ii) 42,533 shares of common stock issuable upon exercise of Warrants.
- (4) Includes (i) 50,127 shares of common stock issuable upon exercise of warrants issued in connection with the March 2018 Offering, the June 2018 Offering and the June 2019 Offering and (ii) 20,772 shares of common stock issuable upon exercise of Warrants.
- (5) Includes (i) 4,323 shares of common stock issuable upon exercise of warrants issued in connection with the June 2018 Offering and the June 2019 Offering and (ii) 1,978 shares of common stock issuable upon exercise of Warrants.
- (6) Includes (i) 1,591 shares of common stock issuable upon exercise of warrants issued in connection with the March 2018 Offering, the June 2018 Offering and the June 2019 Offering and (ii) 659 shares of common stock issuable upon exercise of Warrants.
- (7) The Selling Stockholder is an affiliate of Wainwright, a broker-dealer and the placement agent for the March 2018 Offering, the June 2018 Offering, the June 2019 Offering and the Private Placement, and at the time of the acquisition of the Warrants by the Selling Stockholder, such Selling Stockholder did not have any arrangements or understandings with any person to distribute such securities.

DESCRIPTION OF OUR CAPITAL STOCK

The selling stockholders may, from time to time, sell, transfer, or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market, or trading facility on which the shares are traded or in private transactions at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. This prospectus provides you with a general description of the common stock the selling stockholders may offer.

The description below of our capital stock and provisions of our articles of incorporation and bylaws are summaries and are qualified by reference to the articles of incorporation and the bylaws. These documents are filed as exhibits to the registration statement of which this prospectus is a part.

Our authorized capital stock consists of 150,000,000 shares of common stock, \$0.001 par value, and 20,000,000 shares of preferred stock, \$0.001 par value. As of November 4, 2019, there were no outstanding shares of preferred stock and 8,646,149 outstanding shares of common stock.

Common Stock

Holders of our common stock are entitled to one vote per share for each share held of record on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Our certificate of incorporation does not provide for cumulative voting. Subject to preferences that may be applicable to any outstanding preferred stock, the holders of our common stock are entitled to receive ratably such dividends, if any, as may be declared by our board of directors out of legally available funds. Upon liquidation, dissolution or winding-up, the holders of our common stock are entitled to share ratably in all of our assets which are legally available for distribution, after payment of or provision for all liabilities and the liquidation preference of any outstanding preferred stock. The holders of our common stock have no preemptive, subscription, redemption or conversion rights. Our common stock is currently listed on the Nasdaq Capital Market under the symbol “RKDA.”

Preferred Stock

The board of directors has the authority, without further action by the stockholders, to issue up to 20,000,000 shares of preferred stock, \$0.001 par value per share, in one or more series. The board of directors will also have the authority to designate the rights, preferences, privileges and restrictions of each such series, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences, and the number of shares constituting any series.

[Table of Contents](#)

The issuance of preferred stock may have the effect of delaying, deferring or preventing a change in control of the company without further action by the stockholders. The issuance of preferred stock with voting and conversion rights may also adversely affect the voting power of the holders of common stock. In certain circumstances, an issuance of preferred stock could have the effect of decreasing the market price of the common stock.

Anti-Takeover Effects of Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and our amended and restated bylaws contain certain provisions that could have the effect of delaying, deterring or preventing another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate more favorable terms with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Undesignated Preferred Stock

As discussed above, our board of directors will have the ability to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Limits on Ability of Stockholders to Act by Written Consent or Call a Special Meeting

Our amended and restated certificate of incorporation provides that our stockholders may not act by written consent, which may lengthen the amount of time required to take stockholder actions. As a result, a holder controlling a majority of our capital stock would not be able to amend our bylaws or remove directors without holding a meeting of our stockholders called in accordance with our bylaws.

In addition, our amended and restated bylaws provide that special meetings of the stockholders may be called only by the majority of our board of directors. Stockholders may not call a special meeting, which may delay the ability of our stockholders to force consideration of a proposal or for holders controlling a majority of our capital stock to take any action, including the removal of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our amended and restated bylaws require advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of our board of directors. These provisions may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Board Classification

Our board of directors is divided into three classes, one class of which is elected each year by our stockholders. The directors in each class will serve three-year terms. A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of us as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board.

No Cumulative Voting

Our amended and restated certificate of incorporation and amended and restated bylaws does not permit cumulative voting in the election of directors. Cumulative voting allows a stockholder to vote a portion or all of its shares for one or more candidates for seats on the board of directors. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board's decision regarding a takeover.

Amendment of Charter and Bylaws Provisions

The amendment of the above provisions of our amended and restated certificate of incorporation requires approval by holders of at least two-thirds of our outstanding capital stock entitled to vote generally in the election of directors. The amendment of our bylaws requires approval by the holders of at least two-thirds of our outstanding capital stock entitled to vote generally in the election of directors.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the Delaware General Corporate Law, or DGCL, regulating corporate takeovers. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, calculated as provided under Section 203; or
- at or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

The provisions of Delaware law and the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, as amended upon the completion of this offering, could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests.

Forum Selection

Our amended and restated certificate of incorporation provides that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders;
- any action asserting a claim against us arising pursuant to any provisions of the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine.

These exclusive-forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage lawsuits against us and our directors, officers and other employees. Furthermore, the enforceability of similar choice of forum provisions in other companies' charter documents has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. If a court were to find either exclusive-forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could harm our business.

[Table of Contents](#)

These exclusive-forum provisions are not intended to apply to any causes of action arising under the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction.

Listing

Our common stock is listed on the NASDAQ Capital Market under the symbol "RKDA".

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company.

USE OF PROCEEDS

We are registering shares of our common stock pursuant to registration rights granted to the selling stockholders. We will not receive any of the proceeds from any sale or other disposition of the common stock covered by this prospectus. All proceeds from the sale of the common stock will be paid directly to the selling stockholders. We will receive proceeds upon the cash exercise of the Warrants for which the underlying Warrant shares are being registered hereunder. Assuming full cash exercise of the Warrants, we would receive proceeds of approximately \$5,583,798. We currently intend to use the cash proceeds from any Warrant exercise for working capital and general corporate purposes.

PLAN OF DISTRIBUTION

The selling stockholders, including their transferees, donees, pledgees, assignees and successors-in-interest, may, from time to time, sell, transfer or otherwise dispose of any or all of the shares of common stock offered by this prospectus from time to time on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at market prices prevailing at the time of sale, at prices related to prevailing market price, at varying prices determined at the time of sale or at negotiated prices. The selling stockholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- broker-dealers may agree with a selling stockholder to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser in amounts to be negotiated. The selling stockholders do not expect these commissions and discounts relating to its sales of shares to exceed what is customary in the types of transactions involved.

The selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out its short positions, or loan or pledge the common stock

Table of Contents

to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus, as supplemented or amended to reflect such transaction.

The selling stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The selling stockholders have informed us that they do not have any agreement or understanding, directly or indirectly, with any person to distribute the common stock.

Because each of the selling stockholders may be deemed to be an “underwriter” within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. The selling stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriter or broker-dealer regarding the sale of the resale shares.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the shares may not simultaneously engage in market making activities with respect to our common stock for a period of two business days prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of our common stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders and have informed the selling stockholders of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale.

We will not receive any proceeds from the sale of the shares by the selling stockholders.

LEGAL MATTERS

Weintraub Tobin Chediak Coleman Grodin Law Corporation will pass upon legal matters in connection with the validity of the common stock offered hereby.

EXPERTS

The consolidated financial statements incorporated in this Prospectus by reference from the Company’s Annual Report on Form 10-K for the year ended December 31, 2018, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference (which report expresses an unqualified opinion on the consolidated financial statements and includes an explanatory paragraph regarding the Company’s ability to continue as a going concern). Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

INTERESTS OF NAMED EXPERTS AND COUNSEL

Except as noted below, no expert or counsel named in this prospectus as having prepared or certified any part of this prospectus or having given an opinion upon the validity of the securities being registered or upon other legal matters in connection with the registration or offering of the securities was employed on a contingency basis, or had, or is to receive, in connection with the offering, a substantial interest, direct or indirect, in the registrant or any of its parents or subsidiaries. Nor was any such person connected with the registrant or any of its parents or subsidiaries as a promoter, managing or principal underwriter, voting trustee, director, officer, or employee.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The estimated expenses payable by the registrant in connection with the issuance and distribution of the securities being registered are as follows:

SEC Registration Fee	500
Legal Fees and Expenses*	20,000
Accounting Fees and Expenses*	10,000
Miscellaneous Fees and Expenses*	5,000
TOTAL:	\$35,500

* Estimated solely for the purposes of this Item. Actual expenses may vary.

Item 14. Indemnification of Directors and Officers

On completion of this offering, the Registrant's amended and restated certificate of incorporation will contain provisions that eliminate, to the maximum extent permitted by the General Corporation Law of the State of Delaware, the personal liability of the Registrant's directors and executive officers for monetary damages for breach of their fiduciary duties as directors or officers. The Registrant's amended and restated certificate of incorporation and bylaws will provide that the Registrant must indemnify its directors and executive officers and may indemnify its employees and other agents to the fullest extent permitted by the General Corporation Law of the State of Delaware.

Sections 145 and 102(b)(7) of the General Corporation Law of the State of Delaware provide that a corporation may indemnify any person made a party to an action by reason of the fact that he or she was a director, executive officer, employee or agent of the corporation or is or was serving at the request of a corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of an action by or in right of the corporation, no indemnification may generally be made in respect of any claim as to which such person is adjudged to be liable to the corporation.

The Registrant has entered into indemnification agreements with its directors and executive officers, in addition to the indemnification provided for in its amended and restated certificate of incorporation and bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Registrant has purchased and intends to maintain insurance on behalf of each and any person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

Item 15. Recent Sales of Unregistered Securities

In the three years preceding the filing of this registration statement, we issued the securities described below without registration under the Securities Act. Unless otherwise indicated below, the securities were issued pursuant to the private placement exemption provided by Section 4(a)(2) of the Securities Act.

Between March 22, 2018 and May 8, 2018, we issued and sold to two investors, for a total purchase price of \$10 million, a total of 1,201,634 shares of common stock and warrants to purchase a total of 1,282,832 shares of common stock. The warrants have an exercise price per share of \$10.7258 and terms of five years. We also issued to the placement agent in this transaction warrants to purchase a total of 15,038 shares of common stock, which warrants have an exercise price per share of \$41.5625 and terms of 5 years.

On June 14, 2018, we issued and sold to four investors warrants to purchase a total of 1,392,345 shares of common stock at a total price of \$174,043. The warrants have an exercise price per share of \$9.94 and terms of five and one-half years. We also issued to the placement agent in this transaction warrants to purchase a total of 69,617 shares of common stock, which warrants have an exercise price per share of \$12.568 and terms of 5 years.

Table of Contents

On April 15, 2019, we issued two warrants to a consulting entity to purchase up to 100,000 and 45,154 shares of our common stock, respectively. Each warrant has an exercise price per share of \$6.18 and has a term of 5 years.

On June 14, 2019, we issued and sold to five investors warrants to purchase a total of 1,489,575 shares of common stock at a total price of \$186,197. The warrants have an exercise price per share of \$5.00 and terms of five and one-half years. We also issued to the placement agent in this transaction warrants to purchase a total of 74,479 shares of common stock, which warrants have an exercise price per share of \$6.2938 and terms of 5 years.

On July 31, 2019, we issued a warrant to a consulting entity to purchase up to 10,000 shares of our common stock. The warrant has an exercise price per share of \$2.19 and a term of 2 years.

On August 5, 2019, we issued two warrants to consulting entities, each to purchase up to 10,000 shares of our common stock. Each warrant has an exercise price per share of \$1.92 and a term of 2 years.

On September 10, 2019, we issued and sold to two investors warrants to purchase a total of 659,414 shares of common stock at a total price of \$82,426. The warrants have an exercise price per share of \$7.52 and terms of five and one-half years. We also issued to the placement agent in this transaction warrants to purchase a total of 65,942 shares of common stock, which warrants have an exercise price per share of \$9.4781 and terms of 5 years.

Item 16. Exhibits

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith	
		Form	File No.	Filing Date		
3.1	Amended and Restated Certificate of Incorporation of Registrant.	8-K	001-37383	3.1	5/26/2015	
3.2	Amendment to the Amended and Restated Certificate of Incorporation of Registrant.	8-K	001-37383	3.1	1/23/2018	
3.3	Amended and Restated Bylaws of Registrant.	8-K	001-37383	3.2	5/26/2015	
4.1	Form of Registrant's common stock certificate.	S-3	333-224061	4.1	3/30/2018	
4.2	Amended and Restated Stock Purchase Warrant dated December 11, 2013 between the Registrant and Mahyco International Pte Ltd.	S-1/A	333-202124	4.7	4/30/2015	
4.3	Form of Common Stock Purchase Warrant between the Registrant and certain purchasers of its Series D Preferred Stock.	S-1	333-202124	4.8	2/17/2015	
4.4	Form of Common Stock Purchase Warrant between the Registrant and certain purchasers.	8-K	001-37383	4.1	3/23/2018	
4.5	Form of Common Stock Purchase Warrant between the Registrant and certain purchasers.	8-K	001-37383	4.1	6/14/2018	
4.6	Form of Common Stock Purchase Warrant between the Registrant and certain purchasers.	8-K	001-37383	4.1	6/14/2019	
4.7	Form of Common Stock Purchase Warrant between the Registrant and certain purchasers.	8-K	001-37383	4.1	9/9/2019	
5.1	Opinion of Weintraub Tobin Chediak Coleman Grodin Law Corporation.					X
10.1	Investors' Rights Agreement dated March 28, 2014 among the Registrant and certain holders of its capital stock	S-1	333-202124	4.2	2/17/2015	
10.2	Amended and Restated Investors' Rights Agreement dated April 30, 2010 among the Registrant and certain holders of its capital stock.	S-1	333-202124	4.3	2/17/2015	

Table of Contents

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.3	Securities Purchase Agreement dated as of March 19, 2018, between the Registrant and each purchaser named in the signature pages thereto	8-K	001-37383	10.1	3/25/2018	
10.4	Form of Registration Rights Agreement	8-K	001-37383	10.2	3/25/2018	
10.5	Form of Securities Purchase Agreement dated as of June 11, 2018, between the Registrant and certain purchasers.	8-K	001-37383	10.1	6/14/2018	
10.6	Form of Securities Purchase Agreement dated as of June 12, 2019, between the Registrant and certain purchasers.	8-K	001-37383	10.1	6/14/2019	
10.7	Form of Securities Purchase Agreement dated as of September 5, 2019, between the Registrant and certain purchasers.	8-K	001-37383	10.1	9/9/2019	
10.8*	Form of Indemnification Agreement between the Registrant and each of its Officers and Directors.	S-1	333-202124	10.7	2/17/2015	
10.9*	2006 Stock Plan, as amended and restated, and form of agreement thereunder.	S-1	333-202124	10.8	2/17/2015	
10.10*	2015 Omnibus Equity Incentive Plan and forms of agreement thereunder.	S-1	333-232858	10.9	7/26/2019	
10.11*	2015 Employee Stock Purchase Plan and form of agreement thereunder.	S-1/A	333-202124	10.10	5/11/2015	
10.12*	Executive Incentive Bonus Plan.	S-1/A	333-202124	10.15	5/11/2015	
10.13*	Amended and Restated Director Compensation Policy.	10-Q	001-37383	10.14	5/10/2016	
10.14*	Form of Severance and Change in Control Agreement.	S-1/A	333-202124	10.18	4/6/2015	
10.15	Office Lease dated March 17, 2003 between the Registrant and Buzz Oates LLC as successor to Marvin L. Oates, Trustee of the Marvin L. Oates Trust, as amended.	S-1	333-229047	10.16	12/27/2018	
10.16*	Separation and Release Agreement between the Registrant and Rajendra Ketkar, dated August 23, 2019.	8-K	001-37383	10.1	8/28/2019	
10.17*	Employment Letter and appended form of Severance and Change In Control Agreement between the Registrant and Matthew Plavan, dated October 1, 2019.	8-K/A	001-37383	10.1	10/7/2019	
10.18*	Offer Letter and appended form of Severance and Change In Control Agreement between the Registrant and Sarah Reiter, dated February 16, 2018.	S-1	333-232858	10.17	7/26/2019	
10.19*	Employment Letter and appended form of Severance and Change In Control Agreement between the Registrant and Pam Haley, dated October 1, 2019.	8-K/A	001-37383	10.2	10/7/2019	
10.20+	Limited Liability Company Operating Agreement for Archipelago Ventures Hawaii, LLC, dated as of August 9, 2019.	8-K	001-37383	10.1	8/9/2019	
21.1	List of subsidiaries of the Registrant.	S-1	333-202124	21.1	2/17/2015	

Table of Contents

<u>Exhibit Number</u>	<u>Exhibit Description</u>	<u>Incorporated by Reference</u>			<u>Filed Herewith</u>
		<u>Form</u>	<u>File No.</u>	<u>Exhibit</u>	
23.1	Consent of Deloitte & Touche LLP, independent registered public accounting firm.				X
23.2	Consent of Weintraub Tobin Chediak Coleman Grodin Law Corporation (included in Exhibit 5.1).				X
24.1	Power of attorney (included in the signature page to this Registration Statement).				X

* Indicates a management contract or compensatory plan or arrangement.

+ Certain information has been excluded from this exhibit because it is not material and would likely cause competitive harm to the registrant if publicly disclosed.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933.

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) If the registrant is relying on Rule 430B:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or

[Table of Contents](#)

prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

(ii) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness.

Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of this registration statement as of the time it was declared effective.

(d) The undersigned registrant hereby undertakes that, for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the provisions described in Item 15 above, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

December 10, 2019

Arcadia Biosciences, Inc.
202 Cousteau Place, Suite 105
Davis, CA 95618

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the filing with the Securities and Exchange Commission (the “**Commission**”), by Arcadia Biosciences, Inc., a Delaware corporation (the “**Company**”), of a Registration Statement on Form S-1 (the “**Registration Statement**”), including a related prospectus to be filed with the Commission pursuant to Rule 424(b) of Regulation C (the “**Prospectus**”) under the Securities Act of 1933, as amended, relating to the resale from time to time by the selling stockholders named in the Registration Statement (the “**Selling Stockholders**”) of up to 725,356 shares of the Company’s common stock, \$0.001 par value per share (the “**Shares**”), in the manner set forth in the Registration Statement. The Shares consist of up to 725,356 shares of common stock issuable upon the exercise of outstanding warrants of the Company (the “**Warrants**”), as described in the Registration Statement.

In connection with this opinion, we have examined and relied upon the Registration Statement and related Prospectus; the Company’s certificate of incorporation, as amended and restated to date; the Company’s Bylaws as in effect on the date hereof; the Warrants; and certain resolutions and minutes of meetings of the Board of Directors of the Company relating to the issuance of the Warrants, the Shares and the Registration Statement. We have considered such matters of law and of fact, including the examination of originals or copies, certified or otherwise identified to our satisfaction, of such records, documents, certificates, and other instruments of the Company, certificates of officers, directors and representatives of the Company, certificates of public officials, and such other documents as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. As to matters of fact material to our opinions, we have relied, without independent verification, on certificates and other inquiries of officers of the Company. We have assumed without investigation the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us

as copies thereof, and the due execution and delivery of all documents where due execution and delivery are a prerequisite to the effectiveness thereof, the accuracy and completeness of all records made available to us by the Company, and that all offers and sales of the Shares will be made in compliance with the securities laws of the states having jurisdiction thereof. We have also assumed that (i) the Registration Statement and any amendments thereto (including post-effective amendments) have become effective and will continue to be effective at the time of the resale of any Shares, (ii) if necessary, a prospectus supplement will have been prepared and filed with the Commission describing any Shares offered thereby or any Selling Stockholders, (iii) all Shares will be sold in the manner stated in the Registration Statement and, if necessary, the applicable prospectus supplement, and (iv) at the time of the offering, there will not have occurred any changes in the law affecting the authorization, execution, delivery, validity or enforceability of the Shares.

The opinions set forth in this letter are limited solely to the federal laws of the United States of America and the State of California, and we express no opinion as to the laws of any other jurisdiction.

Based upon the foregoing, and in reliance thereon, we are of the opinion that when the Shares are issued upon exercise of the Warrants in accordance with the terms of the Warrants, upon receipt of the consideration contemplated thereby, such Shares will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus included in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement. In giving our consent, we do not admit that we are "experts" within the meaning of Section 11 of the Securities Act or within the category of persons whose consent is required by Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ Weintraub Tobin Chediak Coleman Grodin Law Corporation
WEINTRAUB TOBIN CHEDIAK COLEMAN GRODIN LAW CORPORATION

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-1 of our report dated April 1, 2019, relating to the consolidated financial statements of Arcadia Biosciences, Inc. and its subsidiary (the “Company”) (which report expresses an unqualified opinion and includes an explanatory paragraph regarding the Company’s ability to continue as a going concern), appearing in the Annual Report on Form 10-K of Arcadia Biosciences, Inc. for the year ended December 31, 2018, and to the reference to us under the heading “Experts” in the Prospectus, which is part of this Registration Statement.

/s/ Deloitte & Touche LLP

Phoenix, Arizona
December 10, 2019