

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

**FORM S-8  
REGISTRATION STATEMENT**  
*Under  
The Securities Act of 1933*

**ALDEYRA THERAPEUTICS, INC.**  
(Exact name of Registrant as specified in its charter)

**Delaware**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**20-1968197**  
(I.R.S. Employer  
Identification No.)

131 Hartwell Avenue, Suite 320  
Lexington, MA 02421  
(781) 761-4904  
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

2013 Equity Incentive Plan  
2016 Employee Stock Purchase Plan  
(Full title of plan)

**Todd C. Brady, M.D., Ph.D., President and Chief Executive Officer**  
131 Hartwell Avenue, Suite 320  
Lexington, MA 02421  
(781) 761-4904  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

*Please send copies of all communications to:*

Jay K. Hachigian  
Keith J. Scherer  
Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP  
One Marina Park Drive, Suite 900  
Boston, MA 02210  
Telephone: (617) 648-9100  
Telecopy: (617) 648-9199

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

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Stock Options and Common Stock, \$0.001 par value per share, in each case, reserved for issuance pursuant to the 2013 Equity Incentive Plan	880,343 shares	\$4.95(2)	\$4,357,697.85(2)	\$505.06
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to the 2016 Employee Stock Purchase Plan	125,763 shares	\$4.21(3)	\$529,462.23(3)	\$61.36
<b>TOTAL</b>	1,006,106 shares		\$4,887,160.08	\$566.42

- (1) This Registration Statement shall also cover any additional shares of Common Stock which become issuable under the plans set forth herein by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of the outstanding shares of Common Stock of Aldeyra Therapeutics, Inc.
  - (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and (h)(1) under the Securities Act of 1933, as amended (the "Securities Act"). The offering price per share and aggregate offering price for the unissued stock options and shares of Common Stock issuable under the Company's 2013 Equity Incentive Plan (the "Equity Incentive Plan") are based upon the average of the high and low prices of the Registrant's common stock as reported on The NASDAQ Stock Exchange Capital Market on March 24, 2017.
  - (3) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and (h)(1) under the Securities Act. The offering price per share and aggregate offering price for the shares of Common Stock issuable under the Company's 2016 Employee Stock Purchase Plan (the "Purchase Plan") are based upon the average of the high and low prices of the Registrant's common stock as reported on The NASDAQ Stock Exchange Capital Market on March 24, 2017, multiplied by 85%.
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**PART I**

**EXPLANATORY NOTE**

**INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS**

Pursuant to General Instruction E to Form S-8 under the Securities Act, this Registration Statement is filed by Aldeyra Therapeutics, Inc. (the "Company") for the purposes of registering additional shares of Common Stock issuable under the Equity Incentive Plan and registering the shares of Common Stock initially issuable under the Purchase Plan.

The number of shares of Common Stock available for issuance under the Equity Incentive Plan is subject to an automatic annual increase on the first day of the Company's calendar year equal to the lowest of (a) 7.0% of the total number of shares of Common Stock then outstanding, (b) 1,000,000 shares of Common Stock or (c) the number determined by the Company's Board of Directors (the "Equity Incentive Plan Evergreen Provision"). Accordingly, the number of shares of Common Stock available for issuance under the Equity Incentive Plan was increased by 880,343 shares effective January 1, 2017. This Registration Statement registers the 880,343 additional shares of Common Stock available for issuance under the Equity Incentive Plan as a result of the Equity Incentive Plan Evergreen Provision.

The number of shares of Common Stock available for purchase under the Purchase Plan is subject to an automatic annual increase on the first day of the Company's calendar year equal to the lowest of (a) 1.0% of the total number of shares of Common Stock then issued and outstanding or (b) the number determined by the Company's Board of Directors (the "Purchase Plan Evergreen Provision"). Accordingly, the number of shares of Common Stock available for purchase under the Purchase Plan was increased by 125,763 shares effective January 1, 2017. This Registration Statement registers the 125,763 additional shares of Common Stock available for purchase under the Purchase Plan as a result of the Purchase Plan Evergreen Provision.

Of the 2,761,293 shares currently authorized by the Equity Incentive Plan, (i) 700,000 have already been registered pursuant to the currently effective Registration Statement on Form S-8 (Registration No. 333-213045) filed on August 10, 2016 (the "Fourth Registration Statement"), (ii) 333,333 have already been registered pursuant to the currently effective Registration Statement on Form S-8 (Registration No. 333-210492) filed on March 30, 2016 (the "Third Registration Statement"), (iii) 222,617 have already been registered pursuant to the currently effective Registration Statement on Form S-8 (Registration No. 333-203076) filed on March 27, 2015 (the "Second Registration Statement") and (iv) 625,000 have already been registered pursuant to the currently effective Registration Statement on Form S-8 (Registration No. 333-196674) filed on June 11, 2014 (the "Original Registration Statement"). Of the 223,263 shares currently authorized by the Purchase Plan, 97,500 have already been registered pursuant to the Fourth Registration Statement. The contents of the Fourth Registration Statement, the Third Registration Statement, the Second Registration Statement and the Original Registration Statement, including any amendments thereto or filings incorporated therein, are incorporated herein by this reference. Any items in the Fourth Registration Statement, the Third Registration Statement, the Second Registration Statement and the Original Registration Statement not expressly changed hereby shall be as set forth in the Fourth Registration Statement, the Third Registration Statement, the Second Registration Statement and the Original Registration Statement, as applicable.

**PART II**

**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 8. Exhibits.**

Exhibit Number Exhibit

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|------|---|
| 5.1  | Opinion and consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.                 |
| 23.1 | Consent of BDO USA, LLP, Independent Registered Public Accounting Firm                                |
| 23.2 | Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP is contained in Exhibit 5.1. |
| 24.1 | Power of Attorney. Reference is made to page II-3 of this Registration Statement.                     |

**SIGNATURES**

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Lexington, Commonwealth of Massachusetts, on this 30<sup>th</sup> day of March, 2017.

**ALDEYRA THERAPEUTICS, INC.**

/s/ Todd C. Brady, M.D., Ph.D.

**Todd C. Brady, M.D., Ph.D.**

**President and Chief Executive Officer**

## POWER OF ATTORNEY

**KNOW ALL PERSONS BY THESE PRESENTS**, that the undersigned officers and directors of Aldeyra Therapeutics, Inc., a Delaware corporation, do hereby constitute and appoint Todd C. Brady, M.D., Ph.D. and Stephen Tulipano, and each of them, the lawful attorneys-in-fact and agents with full power and authority to do any and all acts and things and to execute any and all instruments which said attorneys and agents, and any one of them, determine may be necessary or advisable or required to enable said corporation to comply with the Securities Act, and any rules or regulations or requirements of the Securities and Exchange Commission in connection with this Registration Statement. Without limiting the generality of the foregoing power and authority, the powers granted include the power and authority to sign the names of the undersigned officers and directors in the capacities indicated below to this Registration Statement, to any and all amendments, both pre-effective and post-effective, and supplements to this Registration Statement, and to any and all instruments or documents filed as part of or in conjunction with this Registration Statement or amendments or supplements thereof, and each of the undersigned hereby ratifies and confirms that all said attorneys and agents, or any one of them, shall do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Todd C. Brady, M.D., Ph.D.</u> Todd C. Brady, M.D., Ph.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	March 30, 2017
<u>/s/ Stephen Tulipano</u> Stephen Tulipano	Chief Financial Officer (Principal Financial (and Accounting Officer)	March 30, 2017
<u>/s/ C. Boyd Clarke</u> C. Boyd Clarke	Chairman of the Board of Directors	March 30, 2017
<u>/s/ Ben Bronstein, M.D.</u> Ben Bronstein, M.D.	Director	March 30, 2017
<u>/s/ Richard H. Douglas, Ph.D.</u> Richard H. Douglas, Ph.D.	Director	March 30, 2017
<u>/s/ Martin J. Joyce</u> Martin J. Joyce	Director	March 30, 2017
<u>/s/ Gary Phillips, M.D.</u> Gary Phillips, M.D.	Director	March 30, 2017
<u>/s/ Jesse Treu, Ph.D.</u> Jesse Treu, Ph.D.	Director	March 30, 2017
<u>/s/ Neal Walker, D.O.</u> Neal Walker, D.O.	Director	March 30, 2017

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## EXHIBIT INDEX

Exhibit Number Exhibit

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- 23.2 Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP is contained in Exhibit 5.1.
- 24.1 Power of Attorney. Reference is made to page II-3 of this Registration Statement.

March 30, 2017

Aldeyra Therapeutics, Inc.  
131 Hartwell Avenue, Suite 320  
Lexington, MA 02421

Re: Aldeyra Therapeutics, Inc. (the "Company") Registration  
Statement on Form S-8 for 1,006,106 Shares of Common  
Stock

Ladies and Gentlemen:

We refer to your registration statement on Form S-8 (the "Registration Statement") under the Securities Act of 1933, as amended (the "Act") in connection with the registration of (i) 880,343 shares of Common Stock (the "Equity Incentive Plan Shares") of Aldeyra Therapeutics, Inc. (the "Company") issuable in the aggregate under the Company's 2013 Equity Incentive Plan, as amended (the "Equity Incentive Plan") and (ii) 125,763 shares of Common Stock (the "ESPP Shares" and, together with the Equity Incentive Plan Shares, the "Shares") of the Company issuable in the aggregate under the Company's 2016 Employee Stock Purchase Plan (the "ESPP" and, together with the Equity Incentive Plan, the "Plans").

As your counsel, we have examined such matters of fact and questions of law as we have deemed necessary in order to render the opinion set forth herein. In connection with our opinion expressed below, we have relied as to certain factual matters on information obtained from public officials, officers of the Company and other sources believed by us to be responsible. We express no opinion as to matters governed by any laws other than the laws of the Delaware General Corporation Law and the federal laws of the United States.

Based upon and subject to the foregoing, we advise you that, in our opinion, when the Shares have been issued and sold pursuant to the applicable provisions of the Plans, and in accordance with the Registration Statement, such Shares will be validly issued, fully paid and nonassessable shares of the Company's Common Stock.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act.

Very truly yours,

/s/ Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP  
Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP



Consent of Independent Registered Public Accounting Firm

Aldeyra Therapeutics, Inc.  
Lexington, Massachusetts

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement on Form S-8 of our report dated March 30, 2017, relating to the financial statements of Aldeyra Therapeutics, Inc., appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

/s/ BDO USA, LLP  
Boston, Massachusetts

March 30, 2017