

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

SCHEDULE 13G  
(Amendment No. \_\_)

UNDER THE SECURITIES EXCHANGE ACT OF 1934<sup>1</sup>

ARROWHEAD RESEARCH CORPORATION  
(Name of Issuer)

Common Stock, \$0.001 par value per share  
(Title of Class of Securities)

042797209  
(CUSIP Number)

October 8, 2013  
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

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<sup>1</sup> The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the *Notes*).

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<b>1.</b>	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)	
	Ridgeback Capital Investments L.P.	00-0000000
<b>2.</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP**	(a)     o (b)     o
<b>3.</b>	SEC USE ONLY	
<b>4.</b>	CITIZENSHIP OR PLACE OF ORGANIZATION	
	Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>5.</b>	SOLE VOTING POWER -0-
	<b>6.</b>	SHARED VOTING POWER 1,817,717
	<b>7.</b>	SOLE DISPOSITIVE POWER -0-
	<b>8.</b>	SHARED DISPOSITIVE POWER 1,817,717
<b>9.</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,817,717	
<b>10.</b>	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW 9 EXCLUDES CERTAIN SHARES**	o
<b>11.</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 5.0%	
<b>12.</b>	TYPE OF REPORTING PERSON** OO	

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT

<b>1.</b>	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)	
	Ridgeback Capital Investments Ltd.	00-0000000
<b>2.</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP**	(a) <input type="radio"/> (b) <input type="radio"/>
<b>3.</b>	SEC USE ONLY	
<b>4.</b>	CITIZENSHIP OR PLACE OF ORGANIZATION	
	Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>5.</b>	SOLE VOTING POWER -0-
	<b>6.</b>	SHARED VOTING POWER 1,817,717
	<b>7.</b>	SOLE DISPOSITIVE POWER -0-
	<b>8.</b>	SHARED DISPOSITIVE POWER 1,817,717
<b>9.</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,817,717	
<b>10.</b>	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW 9 EXCLUDES CERTAIN SHARES**	<input type="radio"/>
<b>11.</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 5.0%	
<b>12.</b>	TYPE OF REPORTING PERSON** OO	

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT

<b>1.</b>	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)	
	Ridgeback Capital Management LP	42-1684320
<b>2.</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP**	(a) <input type="radio"/> (b) <input type="radio"/>
<b>3.</b>	SEC USE ONLY	
<b>4.</b>	CITIZENSHIP OR PLACE OF ORGANIZATION	
	Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>5.</b>	SOLE VOTING POWER  -0-
	<b>6.</b>	SHARED VOTING POWER  1,817,717
	<b>7.</b>	SOLE DISPOSITIVE POWER  -0-
	<b>8.</b>	SHARED DISPOSITIVE POWER  1,817,717
<b>9.</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  1,817,717	
<b>10.</b>	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW 9 EXCLUDES CERTAIN SHARES**	<input type="radio"/>
<b>11.</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9  5.0%	
<b>12.</b>	TYPE OF REPORTING PERSON**  OO	

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT

**Item 1(a). Name of Issuer.**

Arrowhead Research Corporation (the “Company”).

**Item 1(b). Address of Issuer’s Principal Executive Offices.**

The Company’s principal executive offices are located at 225 S. Lake Avenue, Suite 1050, Pasadena, California 91101.

**Items 2(a). Name of Person Filing.**

This statement is filed on behalf of the following persons with respect to shares of common stock of the Company acquired by them (the “Shares”):

- (i) Ridgeback Capital Investments L.P., Cayman exempted limited partnership (“RCILP”), with respect to Shares beneficially owned by it;
- (ii) Ridgeback Capital Investments Ltd., a Cayman limited company (“RCI”), with respect to Shares beneficially owned by it; and
- (iii) Ridgeback Capital Management LP, a Delaware limited partnership (“RCM”), with respect to Shares beneficially owned by it.

The foregoing persons are hereinafter referred to collectively as the “Reporting Persons.” Any disclosures herein with respect to persons other than the Reporting Persons are made on information and belief after making inquiry to the appropriate party.

**Item 2(b). Address of Principal Business Office or, if None, Residence.**

The address of the principal business office of each of the Reporting Persons is 75 Ninth Avenue, 5<sup>th</sup> Floor, New York, NY 10011.

**Item 2(c). Citizenship.**

RCILP is a Cayman Island exempted limited partnership. RCI is a Cayman Island limited company. RCM is a Delaware limited partnership.

**Item 2(d). Title of Class of Securities.**

Common stock, \$0.001 par value per share.

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**Item 2(e). CUSIP Number.**

04279209

**Item 3.**

If this statement is filed pursuant to Rules 13d-1(b) or 13d-2(b) or (c), check whether the person filing is a:

- (a)  Broker or dealer registered under Section 15 of the Act,
- (b)  Bank as defined in Section 3(a)(6) of the Act,
- (c)  Insurance Company as defined in Section 3(a)(19) of the Act,
- (d)  Investment Company registered under Section 8 of the Investment Company Act of 1940,
- (e)  Investment Adviser in accordance with Rule 13d-1 (b)(1)(ii)(E),
- (f)  Employee Benefit Plan or Endowment Fund in accordance with 13d-1 (b)(1)(ii)(F),
- (g)  Parent Holding Company or control person in accordance with Rule 13d-1 (b)(1)(ii)(G),
- (h)  Savings Association as defined in Section 3(b) of the Federal Deposit Insurance Act,
- (i)  Church Plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940,
- (j)  A non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J),
- (k)  Group, in accordance with Rule 13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please specify the type of institution: \_\_\_\_\_.

**Item 4. Ownership.**

The percentages used herein are calculated based upon 36,307,615 shares outstanding as of October 16, 2013 based upon information reported in the Company's Current Report on Form 8-K filed with the SEC on October 10, 2013. As of the close of business on October 16, 2013, the Reporting Persons beneficially owned shares of the Company's common stock in the amounts and percentages listed below:

**A. Ridgeback Capital Investments L.P.**

- (a) Amount beneficially owned: 1,817,717
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- (b) Percent of class: 5.0%
- (c) (i) Sole power to vote or direct the vote: -0-
- (ii) Shared power to vote or direct the vote: 1,817,717
- (iii) Sole power to dispose or direct the disposition: -0-
- (iv) Shared power to dispose or direct the disposition: 1,817,717

**B. Ridgeback Capital Investments Ltd.**

- (a) Amount beneficially owned: 1,817,717
- (b) Percent of class: 5.0%
- (c) (i) Sole power to vote or direct the vote: -0-
- (ii) Shared power to vote or direct the vote: 1,817,717
- (iii) Sole power to dispose or direct the disposition: -0-
- (iv) Shared power to dispose or direct the disposition: 1,817,717

**C. Ridgeback Capital Management LP**

- (a) Amount beneficially owned: 1,817,717
- (b) Percent of class: 5.0%
- (c) (i) Sole power to vote or direct the vote: -0-
- (ii) Shared power to vote or direct the vote: 1,817,717
- (iii) Sole power to dispose or direct the disposition: -0-
- (iv) Shared power to dispose or direct the disposition: 1,817,717

RCM and RCI do not own any Shares directly. RCI is the general partner of RCILP. Pursuant to an investment management agreement, RCM maintains investment and voting power with respect to the securities held or controlled by RCI. Wayne Holman, an individual, controls RCM. By reason of the provisions of Rule 13d-3 of the Securities Exchange Act of 1934, as amended, RCM and RCI may be deemed to own beneficially all of the Shares (constituting approximately 5.0% of the shares outstanding). Each of RCM and RCI disclaim beneficial ownership of any of the securities covered by this statement, except to the extent of any pecuniary interest therein.

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**Item 5. Ownership of Five Percent or Less of a Class.**

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following.

**Item 6. Ownership of More than Five Percent on Behalf of Another Person.**

To the knowledge of the Reporting Persons, no other person has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, a number of the Shares which represents more than five percent of the number of outstanding shares of the Shares.

**Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company.**

Not Applicable.

**Item 8. Identification and Classification of Members of the Group.**

Not Applicable.

**Item 9. Notice of Dissolution of Group.**

Not Applicable.

**Item 10. Certifications.**

Each of the Reporting Persons hereby makes the following certification:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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## SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

DATED: October 16, 2013

**Ridgeback Capital Investments L.P.**

By: Ridgeback Capital Investments Ltd.,  
Its General Partner

By: /s/ Bud Holman  
Name: Bud Holman  
Title: Director

**Ridgeback Capital Investments Ltd.**

By: /s/ Bud Holman  
Name: Bud Holman  
Title: Director

**Ridgeback Capital Management LP**

By: /s/ Bud Holman  
Name: Bud Holman  
Title: Authorized Signatory

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## EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Exhibit Description</u>
99.1	Joint Filing Agreement

## JOINT FILING AGREEMENT

The undersigned hereby agree that statements on Schedules 13G and/or 13D and Forms 3, 4 and 5 with respect to the shares of common stock of Arrowhead Research Corporation and any amendments thereto signed by each of the undersigned shall be filed on behalf of each of the undersigned pursuant to and in accordance with the provisions of Rule 13d-1(k) promulgated under the Securities Exchange Act of 1934, as amended. The undersigned hereby further agree that this Joint Filing Agreement may be included as an exhibit to such statements or amendments. This Joint Filing Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same instrument.

Dated: October 16, 2013

**Ridgeback Capital Investments L.P.**

By: Ridgeback Capital Investments Ltd.,  
Its General Partner

By: /s/ Bud Holman  
Name: Bud Holman  
Title: Director

**Ridgeback Capital Investments Ltd.**

By: /s/ Bud Holman  
Name: Bud Holman  
Title: Director

**Ridgeback Capital Management LP**

By: /s/ Bud Holman  
Name: Bud Holman  
Title: Authorized Signatory