ARROWHEAD RESEARCH CORP Form SC 13G October 28, 2011

SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G (Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO § 240.13d-1(b), (c), AND (d) AND AMENDMENTS THERETO FILED PURSUANT TO § 240.13d-2(b)

Arrowhead Research Corporation (Name of Issuer)

Common Stock (Title of Class of Securities)

042797 10 0 (CUSIP Number)

October 21, 2011 (Date of Event which Requires Filing of this Statement)

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

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

CUSIP No. 042797 10 0

13G

1 NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Roche Holding Ltd

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a) o

(b) o

NOT APPLICABLE

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Switzerland

5 SOLE VOTING POWER

0

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH 6 SHARED VOTING POWER

9,017,021

7 SOLE DISPOSITIVE POWER

0

8 SHARED DISPOSITIVE POWER

9,017,021

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9,017,021

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

NOT APPLICABLE

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

8.6%

2

12 TYPE OF REPORTING PERSON

CO

CUSIP No. 042797 10 0

13G

1 NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Roche Finance Ltd

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a) o

(b) o

NOT APPLICABLE

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Switzerland

5 SOLE VOTING POWER

0

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH 6 SHARED VOTING POWER

9,017,021

7 SOLE DISPOSITIVE POWER

0

8 SHARED DISPOSITIVE POWER

9,017,021

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9,017,021

NOT APPLICABLE

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

8.6%

o

12 TYPE OF REPORTING PERSON

CO

CUSIP No. 042797 10 0	13G						
Item 1(a).	Name of Issuer:						
Arrowhead Research Corp	poration						
Item 1(b).	Address of Issuer's Principal Executive Offices:						
201 S. Lake Avenue, Suite 703 Pasadena, California 91101							
Item 2(a).	Name of Person Filing:						
Roche Holding Ltd and Roche Finance Ltd (the "Reporting Persons")							
Item 2(b).	Address of Principal Business Office or, if None, Residence:						
Roche Holding Ltd :	Grenzacherstrasse 124 CH 4070, Basel, Switzerland						
Roche Finance Ltd :	Grenzacherstrasse 122 CH 4058, Basel, Switzerland						
Item 2(c).	Citizenship:						
Roche Holding Ltd is a company organized under the laws of Switzerland. Roche Finance Ltd is a company organized under the laws of Switzerland.							
Item 2(d).	Title of Class of Securities:						
Common Shares, par value \$0.001 per share							
Item 2(e).	CUSIP Number:						
042797 10 0							
Item 3. If this Statement is Filed Pursuant to §§240.13d-1(b), or 240.13d-2(b) or (c), Check Whether the Person Filing is a:							
Not Applicable							
(a)	o Broker or dealer registered under Section 15 of the Act (15 U.S.C. 780);						
(b)	o Bank as defined in Section 3(a)(6) of the Act (15 U.S.C. 78c);						
(c) o	Insurance company as defined in Section 3(a)(19) of the Act (15 U.S.C. 78c);						

(d)o Investment company registered under Section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);

CUSIP No. 042797 10 0			13G					
(e)o	An i	nvestment adviser in acc	ordance with §240.13d-1(b)(1)(ii)(E);					
	(f)	o An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);						
	(g)	o A parent holdin	company or control person in accordance with §240.13d-1(b)(1)(ii)(G);					
(h)o	A sa	vings association as def	ned in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);					
	vestme	ent Company Act of 194	from the definition of an investment company under section 3(c)(14) of the (15 U.S.C. 80a-3); A church plan that is excluded from the definition of an a 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);					
(j)o	A no	n-U.S. institution in acc	rdance with §240.13d-1(b)(1)(ii)(J);					
		(k)	o Group, in accordance with §240.13d-1(b)(1)(ii)(K).					
	-	non-US institution in a	ordance with §240.13d-1(b)(1)(ii)(J), please specify the type of					
Item 4	ŀ.		Ownership.					
		following information r Item 1.	garding the aggregate number and percentage of the class of securities of issuer					
		(a)	Amount beneficially owned:					
See ite	em 9 c	on Cover Pages to this S	nedule 13G.					
			have beneficial ownership of the 9,017,021 shares of the reported securities Finance Ltd, its wholly-owned subsidiary.					
		(b)	Percent of class:					
		_	chedule 13G. Percent of class was determined using the number of shares or 21, 2011 as provided to the Reporting Persons by the Issuer on October 21,					
		(c)	Number of shares as to which such person has:					
	(i)	Sole power to vote	or to direct the vote: See item 5 on Cover Pages to this Schedule 13G.					
		(ii)Shared power to vo	or to direct the vote: See item 6 on Cover Pages to this Schedule 13G.					

(iii)Sole power to dispose or to direct the disposition of: See item 7 on Cover Pages to this Schedule 13G.

(iv)Shared power to dispose or to direct the disposition of: See item 8 on Cover Pages to this Schedule 13G.

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

Not Applicable

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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 5 percent of the class of securities, check the following [].

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

Not Applicable

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

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.

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.

October 28, 2011 (Date)

ROCHE HOLDING LTD

By: /s/ Dr. Beat Kraehenmann

Name: Dr. Beat Kraehenmann Title: Authorized Signatory

By: /s/ Peter Eisenring

Name: Peter Eisenring
Title: Authorized Signatory

ROCHE FINANCE LTD

By: /s/ Peter Eisenring

Name: Peter Eisenring
Title: Authorized Signatory

By: /s/ Dr. Urs Jaisli

Name: Dr. Urs Jaisli

Title: Authorized Signatory