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

Form 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 OF THE SECURITIES EXCHANGE ACT OF 1934

For the month of May 2016

Commission File Number: 001-32001

Aptose Biosciences Inc.

(Translation of registrant's name into English)

5955 Airport Road, Suite 228
Mississauga, Ontario L4V 1R9
Canada
(*Address of principal executive offices*)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-FR Form 40-F £

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1) £

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7) £

INCORPORATION BY REFERENCE

Exhibits 99.1 and 99.2 to this Report of Foreign Issuer on Form 6-K of Aptose Biosciences Inc. (the "Registrant") are each hereby incorporated by reference into the registration statement on Form F-3 of the Registrant (File No. 333-200660) and the prospectus, forming a part thereof.

DOCUMENTS FILED AS PART OF THIS FORM 6-K

See Exhibit Index hereto.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Aptose Biosciences Inc.

Date: May 10, 2016

By: "*Gregory Chow*"
Name: Gregory Chow
Title: Senior Vice President and Chief Financial Officer

EXHIBIT INDEX

99.1	Interim Financial Statements
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Aptose Biosciences Inc.
Condensed Consolidated Interim Statements of Financial Position
(unaudited)

(amounts in 000's of Canadian Dollars)	as at	March 31, 2016	December 31, 2015
ASSETS			
Current			
Cash and cash equivalents (note 4(a))	**$**	**6,742**	$ 11,503
Investments (note 4(b))		**8,286**	8,245
Prepaid expenses and other assets		**781**	1,067
Total Current Assets		**15,809**	20,815
Non-current			
Equipment		**404**	434
Total Non-Current Assets		**404**	434
Total Assets	**$**	**16,213**	$ 21,249
LIABILITIES			
Current			
Accounts payable	**$**	**330**	$ 522
Accrued liabilities		**1,527**	1,834
Total Current Liabilities		**1,857**	2,356
SHAREHOLDERS' EQUITY			
Share capital (note 6)			
Common shares		**223,425**	223,425
Stock options (note 7)		**6,745**	6,256
Contributed surplus		**22,083**	22,037
Warrants		**84**	84
Deficit		**(237,981)**	(232,909)
Total Equity		**14,356**	18,893
Total Liabilities and Equity	**$**	**16,213**	$ 21,249

See accompanying notes to the condensed consolidated interim financial statements (unaudited)
Commitments, contingencies and guarantees (Note 10)

Aptose Biosciences Inc.
Condensed Consolidated Interim Statements of Loss and Comprehensive Loss
(unaudited)

(amounts in 000's of Canadian Dollars except for per common share data)		**Three months ended March 31, 2016**		Three months ended March 31, 2015
REVENUE	**$**	**-**	$	-
				(note 12)
EXPENSES				
Research and development(note 9)		**2,315**		884
General and administrative (note 9)		**2,608**		2,729
Operating expenses		**4,923**		3,613
Finance expense (note 9)		**196**		60
Finance income (note 9)		**(47)**		(104)
Net financing income		**149**		(44)
Net loss and comprehensive loss for the period		**5,072**		3,569
Basic and diluted loss per common share	**$**	**0.42**	$	0.30
Weighted average number of common shares outstanding used in the calculation of basic and diluted loss per common share (000's) (note 6(d))		**12,048**		11,794

See accompanying notes to the condensed consolidated interim financial statements (unaudited)

Aptose Biosciences Inc.
Condensed Consolidated Interim Statement of Changes in Equity
(unaudited)

(amounts in 000's of Canadian Dollars)	Common Shares	Stock Options	Warrants	Contributed Surplus	Equity Portion of Convertible Promissory Notes	Deficit	Total
Balance, January 1, 2016	$ 223,425	$ 6,256	$ 84	$ 22,037	$ -	$ (232,909)	$ 18,893
Stock-based compensation (note 7)	-	535	-	-	-	-	535
Expiry of vested stock options	-	(46)	-	46	-	-	-
Net loss	-	-	-	-	-	(5,072)	(5,072)
Balance, March 31, 2016	**$ 223,425**	**$ 6,745**	**$ 84**	**$ 22,083**	**$ -**	**$ (237,981)**	**$ 14,356**
Balance, January 1, 2015	$ 221,259	$ 4,078	$ 501	$ 21,653	$ 64	$ (218,283)	$ 29,272
Warrant and stock option exercises	1,051	(476)	(8)	-	-	-	567
Stock-based compensation (note 7)	-	959	-	-	-	-	959
Promissory note conversion (note 6(e))	150	-	-	10	(21)	-	139
Net loss	-	-	-	-	-	(3,569)	(3,569)
Balance, March 31, 2015	**$ 222,460**	**$ 4,561**	**$ 493**	**$ 21,663**	**$ 43**	**$ (221,852)**	**$ 27,368**

Aptose Biosciences Inc.
Condensed Consolidated Interim Statements of Cash Flows
(unaudited)

(amounts in 000's of Canadian Dollars)		**Three months ended March 31, 2016**		Three months ended March 31, 2015
Cash flows used in operatingactivities:				(note 12)
Net loss for the period	**$**	**(5,072)**	$	(3,569)
Items not involving cash and other adjustments:				
Stock-based compensation		**535**		959
Depreciation of equipment		**33**		12
Finance income		**(47)**		(104)
Interest expense		**-**		60
Unrealized foreign exchange loss		**241**		-
Change in non-cash operating working capital (note 8)		**(213)**		459
Cash used in operating activities		**(4,523)**		(2,183)
Cash flows from financing activities:				
Exercise of warrants and stock options		**-**		567
Interest on promissory notes		**-**		(13)
Cash provided by financing activities		**-**		554
Cash flows from investing activities:				
(Acquisitions) of short-term investments		**(41)**		(63)
Purchase of fixed assets		**(3)**		(109)
Interest received		**47**		104
Cash (used in) provided by investing activities		**3**		(68)
Foreign exchange (losses) on cash and cash equivalents		**(241)**		(40)
(Decrease) in cash and cash equivalents during the period		**(4,761)**		(1,737)
Cash and cash equivalents, beginning of period		**11,503**		14,365
Cash and cash equivalents, end of period	**$**	**6,742**	$	12,628

See accompanying notes to the condensed consolidated interim financial statements (unaudited)

1. Reporting Entity

Aptose Biosciences Inc. ("Aptose" or the "Company") is a clinical-stage biotechnology company committed to discovering and developing personalized therapies addressing unmet medical needs in oncology. Aptose is a publicly listed company incorporated under the laws of Canada. The Company's shares are listed on the Nasdaq Capital Markets and the Toronto Stock Exchange. The head office, principal address and records of the Company are located at 5955 Airport Road, Suite 228, Mississauga, Ontario, Canada, L4V 1R9

2. Basis of presentation

(a) Statement of Compliance
These unaudited condensed consolidated interim financial statements of the Company as at March 31, 2016 were prepared in accordance with International Financial Reporting Standards ("IFRS") and International Accounting Standard ("IAS") 34, *Interim Financial Reporting* as issued by the International Accounting Standards Board ("IASB") and do not include all of the information required for full annual financial statements. These unaudited condensed consolidated interim financial statements should be read in conjunction with the Company's audited annual consolidated financial statements and accompanying notes.

The unaudited condensed consolidated interim financial statements of the Company were reviewed by the Audit Committee and approved and authorized for issue by the Board of Directors on May 10, 2016.

(b) Functional and presentation currency
The functional and presentation currency of the Company is the Canadian dollar ("$").

(c) Significant accounting judgments, estimates and assumptions
The preparation of these unaudited condensed consolidated interim financial statements in accordance with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and reported amounts of assets and liabilities at the date of the unaudited condensed consolidated interim financial statements and reported amounts of revenues and expenses during the reporting period. Actual outcomes could differ from these estimates. The unaudited condensed consolidated interim financial statements include estimates, which, by their nature, are uncertain. The impacts of such estimates are pervasive throughout the unaudited condensed consolidated interim financial statements, and may require accounting adjustments based on future occurrences. The estimates and underlying assumptions are reviewed on a regular basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised and in any future periods affected.

The key assumptions concerning the future, and other key sources of estimation uncertainty as of the date of the statement of financial position that have a significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the next fiscal year arise in connection with the valuation of contingent liabilities and valuation of tax accounts. Significant estimates also take place in connection with the valuation of share-based compensation and share purchase warrants.

3. Significant accounting policies

The accompanying unaudited condensed consolidated interim financial statements are prepared in accordance with IFRS and follow the same accounting policies and methods of application as the audited consolidated financial statements of the Company for the year ended December 31, 2015. They do not include all of the information and disclosures required by IFRS for annual financial statements. In the opinion of management, all adjustments considered necessary for fair presentation have been included in these unaudited condensed consolidated interim financial statements. Operating results for the three month period ended March 31, 2016 are not necessarily indicative of the results that may be expected for the full year ended December 31, 2016. For further information, see the Company's audited consolidated financial statements including notes thereto for the year ended December 31, 2015.

Standards and Interpretations Adopted in Fiscal 2016
Adoption of Amendments to IAS 1

Effective January 1, 2016, the Company adopted the amendments to IAS 1 *Presentation of Financial Statements* issued by the IASB in December 2014. The impact of adoption of these amendments did not have a material impact on the financial statements.

4. Capital disclosures

The Company's objectives when managing capital are to:

- Maintain its ability to continue as a going concern;
- Maintain a flexible capital structure which optimizes the cost of capital at acceptable risk; and
- Ensure sufficient cash resources to fund its research and development activity, to pursue partnership and collaboration opportunities and to maintain ongoing operations.

The capital structure of the Company consists of cash and cash equivalents, investments and equity comprised of share capital, share purchase warrants, stock options, contributed surplus and deficit. The Company manages its capital structure and makes adjustments to it in light of economic conditions. The Company, upon approval from its Board of Directors, will balance its overall capital structure through new share issuances, acquiring or disposing of assets, adjusting the amount of cash balances or by undertaking other activities as deemed appropriate under the specific circumstances.

In December 2014, Aptose filed a short form base shelf prospectus (the "Base Shelf") that qualifies for the distribution of up to US$100,000,000 of common shares, warrants, or units comprising any combination of common shares and warrants ("Securities"). The distribution of Securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of sale, or at prices related to such prevailing market prices to be negotiated with purchasers and as set forth in an accompanying prospectus supplement, including transactions that are deemed to be "at-the-market" distributions. The Base Shelf provides us with additional flexibility when managing our cash resources as, under certain circumstances, it shortens the time period required to close a financing and is expected to increase the number of potential investors that may be prepared to invest in our company. Funds received from a Prospectus Supplement will be used in line with our Board approved budget and multi-year plan. Our Base Shelf expires in December, 2017. The Base Shelf allowed us to enter into an "At-The-Market" Facility ("ATM") equity distribution agreement with Cowen and Company, LLC, acting as sole agent. Under the terms of this facility, we may, from time to time, sell shares of our common stock having an aggregate offering value of up to US$20 million through Cowen and Company, LLC on the Nasdaq Capital Market. We determine, at our sole discretion, the timing and number of shares to be sold under this ATM facility. We intend to use this equity arrangement as an additional option to assist us in achieving our capital objectives. The ATM provides the Company with the opportunity to regularly raise capital on the Nasdaq Capital Market, at prevailing market prices, at its sole discretion providing the ability to better manage cash resources.

The Company is not subject to externally imposed capital requirements.

The Company's overall strategy with respect to capital risk management remains unchanged from the year ended December 31, 2015.

(a) Cash and cash equivalents:

Cash and cash equivalents consists of cash of $2.2 million (December 31, 2015 - $761 thousand) and funds deposited into high interest savings accounts totalling $4.5 million (December 31, 2015 - $10.7 million). The current interest rate earned on these deposits is 0.2% (December 31, 2015 – 0.2-0.75%).

(b) Investments:

As at March 31, 2016 and December 31, 2015, investments consist of guaranteed investment certificates with Canadian financial institutions having high credit ratings. Investments include six investments (December 31, 2015 – six investments) with maturity dates from April 22, 2016 to June 19, 2016 (December 31, 2015 – April 22, 2016 to June 19, 2016), bearing an interest rate from 1.80% to 2.10% (December 31, 2015 – 1.80% to 2.10%) per annum.

(Tabular amounts are in 000s)

5. Financial instruments

(a) Financial instruments

The Company has classified its financial instruments as follows:

		As at March 31, 2016		As at December 31, 2015
Financial assets				
Cash and cash equivalents (consisting of high interest savings accounts), measured at amortized cost	**$**	**6,742**	$	11,503
Investments, consisting of guaranteed investment certificates, measured at amortized cost		**8,286**		8,245
Financial liabilities				
Accounts payable, measured at amortized cost		**330**		522
Accrued liabilities, measured at amortized cost		**1,527**		1,834

At March 31, 2016, there are no significant differences between the carrying values of these amounts and their estimated market values.

(b) Financial risk management

The Company has exposure to credit risk, liquidity risk, foreign currency risk and market risk. The Company's Board of Directors has the overall responsibility for the oversight of these risks and reviews the Company's policies on an ongoing basis to ensure that these risks are appropriately managed.

(i) Credit risk

Credit risk is the risk of financial loss to the Company if a customer, partner or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Company's cash and cash equivalents. The carrying amount of the financial assets represents the maximum credit exposure.

The Company manages credit risk for its cash and cash equivalents and investments by maintaining minimum standards of R1-low or A-low investments and the Company invests only in highly rated Canadian corporations with debt securities that are traded on active markets and are capable of prompt liquidation.

(ii) Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they come due. To the extent that the Company does not believe it has sufficient liquidity to meet its current obligations, the Board considers securing additional funds through equity or debt transactions. The Company manages its liquidity risk by continuously monitoring forecasts and actual cash flows. All of the Company’s financial liabilities are due within the current operating period.

(iii) Market risk

Market risk is the risk that changes in market prices, such as interest rates, foreign exchange rates and equity prices will affect the Company's income or the value of its financial instruments.

The Company is subject to interest rate risk on its cash and cash equivalents and investments. The Company does not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates relative to interest rates on the investments, owing to the relative short-term nature of the investments. The Company does not have any material interest bearing liabilities subject to interest rate fluctuations.

Currency risk is the risk that future cash flows of a financial instrument will fluctuate because of changes inforeign exchange rates. We are exposed to currency risk from employee costs as well as the purchase of goods and services primarily in the United States and the cash balances held in foreign currencies. Fluctuations in the US dollar exchange rate could potentially have a significant impact on the Company’s results. Assuming all other variables remain constant, a 10% depreciation or appreciation of the Canadian dollar against the US dollar would result in an increase or decrease in loss for the year and comprehensive loss of $560 thousand (December 31, 2015- $576 thousand). Balances in foreign currencies at March 31, 2016 are as follows:

		US$ balances at March 31, 2016		US$ balances at December 31, 2015
Cash and cash equivalents	**$**	**5,046**	$	5,000
Accounts payable and accrued liabilities		**(735)**		(838)
	$	**4,311**	$	4,162

The Company does not have any forward exchange contracts to hedge this risk.

The Company does not invest in equity instruments of other corporations.

6. Share capital

The Company is authorized to issue an unlimited number of common shares.

Continuity of common shares and warrants

	Common shares		Warrants	
	Number	Amount	Number	Amount
	(In thousands)		(In thousands)	
Balance, January 1, 2015	**11,700**	**$ 221,259**	**209**	**$ 501**
Warrant exercises	81	503	(81)	(155)
Warrant expiry	-	-	(55)	(262)
Option exercises	143	1,215	-	-
Common shares under the ATM	2	10	-	-
Promissory note conversion	122	438	-	-
Balance, March 31, 2016 and December 31, 2015	**12,048**	**$ 223,425**	**73**	**$ 84**

There were no share capital transactions in the three months ended March 31, 2016 that impacted the common share or warrant balances.

(a) Exercise of Warrants

There were no warrants exercised during the three months ended March 31, 2016

Warrants exercised during the three months ended March 31, 2015:

(in thousands)	Number		Proceeds
August 2011 warrants (i)	8	$	25
Total	8	$	25

In addition to the cash proceeds received, the original fair value related to these warrants of $8 thousand was transferred from warrants to share capital. This resulted in a total amount of $33 thousand credited to share capital.

Summary of outstanding warrants:

(in thousands)	**March 31, 2016**	December 31, 2015
August 2011 warrants (i)	**73**	73
Number of warrants outstanding, end of period	**73**	73

(i) August 2011 warrants are exercisable into common shares of Aptose at a price per share of $5.40 and expire in August 2016.

(Tabular amounts are in 000s)

(b) Continuity of contributed surplus

Contributed surplus is comprised of the cumulative grant date fair value of expired share purchase warrants and expired stock options as well as the cumulative amount of previously expensed and unexercised equity settled share-based payment transactions.

	Three months ended March 31, 2016	Three months ended March 31, 2015
Balance, beginning of period	**$ 22,037**	$ 21,653
Exercise of convertible promissory notes	**-**	10
Forfeiture of vested stock options	**46**	-
Balance, end of period	**$ 22,083**	$ 21,663

(c) Continuity of stock options

	Three months ended March 31, 2016	Three months ended March 31, 2015
Balance, beginning of period	**$ 6,256**	$ 4,078
Stock based compensation	**535**	959
Exercise of stock options	**-**	(476)
Expiry of vested stock options	**(46)**	-
Balance, end of period	**$ 6,745**	$ 4,561

(d) Loss per share

Loss per common share is calculated using the weighted average number of common shares outstanding for the three month periods ending March 31, 2016 and 2015 calculated as follows:

	Three months ended	
	March 31, 2016	March 31, 2015
Issued common shares, beginning of period	**12,048**	11,700
Effect of warrant and option exercises	**-**	71
Effect of promissory note conversions	**-**	23
	12,048	11,794

The effect of any potential exercise of our stock options and warrants outstanding during the period has been excluded from the calculation of diluted loss per common share as it would be anti-dilutive.

(e) Convertible promissory notes

During the three months ended March 31, 2015, $150 thousand promissory notes due in September 2015 incurring interest at a rate of 10% and with a carrying value of $140 thousand were converted into 42 thousand common shares of the Company. All of the promissory notes were converted prior to September 30, 2015.

(Tabular amounts are in 000s)

7. Stock options

(a) Stock options transactions for the period:

	Three months ended March 31, 2016		Three months ended March 31, 2015	
	Number of Options	**Weighted average exercise price**	Number of Options	Weighted average exercise price
Outstanding, Beginning of period	**1,689**	**$ 6.31**	1,374	$ 5.95
Granted	**382**	**3.82**	128	6.81
Exercised	**-**	**-**	(117)	4.62
Expired/Forfeited	**(17)**	**7.11**	(1)	5.49
Outstanding, end of period	**2,054**	**$ 5.84**	1,384	6.14

(b) Stock options outstanding at March 31, 2016:

	Options outstanding			Options exercisable	
Range of exercise prices	Number of Options	Weighted average remaining contractual life (years)	Weighted average exercise price	Number of Options	Weighted average exercise price
$ 2.16 - $ 4.49	491	9.2	$ 3.60	109	$ 2.82
$ 4.50 - $ 5.49	156	8.3	5.26	78	5.26
$ 5.50 - $ 5.85	473	8.1	5.70	252	5.70
$ 5.86 - $ 6.87	351	8.3	6.24	191	6.22
$ 6.88 - $118.80	583	8.5	7.75	217	9.03
	2,054	8.5	$ 5.84	847	$ 6.26

(c) Fair value assumptions

The following assumptions were used in the Black-Scholes option-pricing model to determine the fair value of stock options granted during the following periods:

	Three months ended March 31, 2016	Three months ended March 31, 2015
Exercise price	**$ 3.82**	$ 6.77-7.14
Grant date share price	**$ 3.82**	$ 6.77-7.14
Risk free interest rate	**0.68%**	1.5%
Expected dividend yield	**—**	—
Expected volatility	**109.5%**	113%
Expected life of options	**5 years**	5 years
Weighted average fair value of options granted in the period	**$ 2.99**	$ 5.46

Stock options granted by the Company during the three months ended March 31, 2016 vest 50% after one year and 16.67% on each of the next three anniversaries.

Stock options granted by the Company during the three months ended March 31, 2015 vest 50%, 25% and 25% on each of the next two anniversaries.

Refer to note 9 for a breakdown of stock option expense by function.

The Company has reserved up to 2,100,000 common shares for issuance relating to outstanding options, rights and other entitlements under the stock based compensation plans of the Company as of March 31, 2016.

(Tabular amounts are in 000s)

8. Additional cash flow disclosures

Net change in non-cash operating working capital is summarized as follows:

	Three months ended	
	March 31, 2016	March 31, 2015
Prepaid expenses and other assets	**$ 286**	$ (108)
Accounts payable	**(192)**	298
Accrued liabilities	**(307)**	269
	$ (213)	$ 459

9. Other expenses

Components of research and development expenses:

	Three months ended	
	March 31, 2016	March 31, 2015
Program costs	**$ 2,247**	$ 860
Stock based compensation	**56**	19
Depreciation of equipment	**12**	5
	$ 2,315	$ 884

Components of general and administrative expenses:

	Three months ended	
	March 31, 2016	March 31, 2015
Stock based compensation	**$ 479**	$ 940
General and administrative excluding salaries	**1,133**	1,029
Salaries	**975**	753
Depreciation of equipment	**21**	7
	$ 2,608	$ 2,729

Components of finance expense:

	Three months ended	
	March 31, 2016	March 31, 2015
Interest expense	**$ -**	$ 20
Foreign exchange loss	**196**	40
	$ 196	$ 60

Components of finance income:

	Three months ended	
	March 31, 2016	March 31, 2015
Interest income	**$ 47**	$ 104
	$ 47	$ 104

10. Commitments, contingencies and guarantees.

(in thousands)	Less than 1 year	1-3 years	3-5 years	Total
Operating leases	$ 544	806	242	$ 1,592

The Company has entered into various contracts with service providers with respect to the clinical development of APTO-253. These contracts could result in future payment commitments of up to approximately $2.6 million over the related service period. Of this amount, $720 thousand has been paid and $41 thousand has been accrued at March 31, 2016. The payments are based on services performed and amounts may be higher or lower based on actual services performed.

11. Related Party Transactions

In March 2016, the Company entered into an agreement with the Moores Cancer Center at the University of California San Diego (UCSD) to provide pharmacology lab services to the Company. Dr. Stephen Howell is the Acting Chief Medical Officer of Aptose and is also a Professor of Medicine at UCSD and will be overseeing the laboratory work. The research services will be provided from April 1, 2016 to March 31, 2017 and will be billed monthly for services rendered. The total amount for services provided under the agreement is not to exceed USD$200,000.

12. Comparative Figures

Certain comparative figures in the three months ended March 31, 2015 have been reclassified in order to conform to the presentation in the current year. In the three months ended March 31, 2015, $40 thousand was deducted from general and administrative expense and reclassified to finance expense. This $40 thousand related to foreign exchange losses on cash and cash equivalent balances.

13. Subsequent Events

Subsequent to the quarter end, the Company issued 115,927 shares under the ATM for gross proceeds of US$297 thousand. This transaction will be accounted for in the three months ended June 30, 2016.

Exhibit 99.2

MANAGEMENT'S DISCUSSION AND ANALYSIS

For the three months ended March 31, 2016

May 10, 2016

This Management's Discussion and Analysis ("MD&A") of Aptose Biosciences Inc. ("Aptose", the "Company", "we", "us" and similar expressions) for the interim period should be read in conjunction with the Company's unaudited condensed consolidated interim financial statements for the three months ended March 31, 2016 and 2015 which are incorporated by reference herein and form an integral part of this MD&A. The March 31, 2016 interim financial statements and additional information about the Company, including the annual audited financial statements and MD&A as at December 31, 2015 and for the year then ended, and the annual report on form 20-F of the Company as at December 31, 2015 and for the year then ended can be found on SEDAR at www.sedar.com and EDGAR at www.sec.gov/edgar.shtml.

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This management's discussion and analysis may contain forward-looking statements within the meaning of securities laws. Such statements include, but are not limited to, statements relating to:

- *our business strategy;*
- *our clinical development plans;*
- *our ability to obtain the substantial capital we require to fund research and operations;*
- *our plans to secure strategic partnerships to assist in the further development of our product candidates and to build our pipeline;*
- *our plans to conduct clinical trials and preclinical programs;*
- *our expectations regarding the progress and the successful and timely completion of the various stages of our drug discovery, preclinical and clinical studies and the regulatory approval process;*
- *our plans, objectives, expectations and intentions; and*
- *other statements including words such as "anticipate", "contemplate", "continue", "believe", "plan", "estimate", "expect", "intend", "will", "should", "may", and other similar expressions.*

The forward-looking statements reflect our current views with respect to future events, are subject to significant risks and uncertainties, and are based upon a number of estimates and assumptions that, while considered reasonable by us, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause our actual results, performance or achievements to be materially different from any future results, performance, or achievements that may be expressed or implied by such forward-looking statements, including, among others:

- *our ability to obtain the substantial capital we require to fund research and operations;*
- *our lack of product revenues and history of operating losses;*
- *our early stage of development, particularly the inherent risks and uncertainties associated with (i) developing new drug candidates generally, (ii) demonstrating the safety and efficacy of these drug candidates in clinical studies in humans, and (iii) obtaining regulatory approval to commercialize these drug candidates;*
- *our drug candidates require time-consuming and costly preclinical and clinical testing and regulatory approvals before commercialization;*
- *clinical studies and regulatory approvals of our drug candidates are subject to delays, and may not be completed or granted on expected timetables, if at all, and such delays may increase our costs and could delay our ability to generate revenue;*
- *the regulatory approval process;*
- *our ability to recruit patients for clinical trials;*
- *the progress of our clinical trials;*
- *our ability to find and enter into agreements with potential partners;*
- *our ability to attract and retain key personnel;*
- *our ability to obtain and maintain patent protection;*
- *our ability to protect our intellectual property rights and not infringe on the intellectual property rights of others;*
- *our ability to comply with applicable governmental regulations and standards;*
- *development or commercialization of similar products by our competitors, many of which are more established and have or have access to greater financial resources than us;*
- *commercialization limitations imposed by intellectual property rights owned or controlled by third parties;*
- *potential product liability and other claims;*
- *our ability to maintain adequate insurance at acceptable costs;*
- *further equity financing, which may substantially dilute the interests of our existing shareholders;*
- *changing market conditions; and*
- *other risks detailed from time-to-time in our on-going quarterly filings, annual information forms, annual reports and annual filings with Canadian securities regulators and the United States Securities and Exchange Commission, and those which are discussed under the heading "Risk Factors" in this document.*

Should one or more of these risks or uncertainties materialize, or should the assumptions set out in the section entitled "Risk Factors" underlying those forward-looking statements prove incorrect, actual results may vary materially from those described herein. These forward-looking statements are made as of the date of this management's discussion and analysis or, in the case of documents incorporated by reference herein, as of the date of such documents, and we do not intend, and do not assume any obligation, to update these forward-looking statements, except as required by law. We cannot assure you that such statements will prove to be accurate as actual results and future events could differ materially from those anticipated in such statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

CORPORATE UPDATE

At-The-Market-Facility

In April 2015, Aptose entered into an at-the-market ("ATM") facility for up to US $20,000,000 of common shares. The ATM along with the effective shelf prospectus that was filed in December 2014 provides us with the added flexibility to quickly access the market and raise capital at market price. Subsequent to the quarter end, we issued 115,927 common shares under the ATM at prices ranging from US$2.43 to US$2.67 per share for gross proceeds of approximately US$297 thousand.

PROGRAM UPDATES

APTO-253

Phase Ib Trial

APTO-253 is being evaluated by Aptose in a Phase 1b relapsed / refractory hematologic malignancy study. For the study, a modified dose schedule was selected, such that APTO-253 is being administered on the first two days of each 7-day dosing period of a 28-day cycle (i.e., days 1, 2, 8, 9, 15, 16, 22, 23). This results in lower per-administration dose levels to provide the same overall exposure per cycle achieved in the prior Phase 1 solid tumor study, and to more consistently achieve the minimum exposure levels at the end of each dosing period that may be important for efficacy.

Approximately 15 patients will be enrolled in each of two arms of the dose escalation phase of the study: arm (A) will include patients with acute leukemias (including AML) and high-risk myelodysplastic syndromes, or MDS; arm (B) will include patients with lymphomas (Hodgkin's and non-Hodgkin's Lymphoma) and multiple myeloma, followed by enrollment of an additional 15 patients in each of two separate disease-specific expansion cohorts, for a total estimated enrollment of 60 patients.

For future development, upon selection of a lead hematologic indication from this Phase 1b study, combination of APTO-253 with a standard therapy will be considered.

Indications for APTO-253 Clinical Studies

APTO-253 is being administered to patients who have any of the following hematologic malignancies that have failed standard therapies.

- Acute leukemias (including AML, but not including acute promyelocytic leukemia)
- High-risk MDS
- Lymphoma (Hodgkin's and Non-Hodgkin's)
- Multiple myeloma

Upon completion of the dose-escalation stage of the study and determination of the recommended Phase 2 dose (RP2D), two hematologic cancer indications will be selected from those indications studied in the dose-escalation phase, for enrollment in two disease-specific single-agent expansion cohorts.

Clinical Hold and Current Status

We announced in November 2015 that the Food and Drug Administration ("FDA"), following a voluntary suspension of dosing by us and discussions with us, placed our Phase Ib clinical trial of APTO-253 in patients with hematologic cancers on clinical hold. This hold was intended to ensure patient safety within the trial and to ensure manufacturing and dosing procedures are consistent with the appropriate documented quality standards.

The voluntary suspension of dosing by Aptose was initiated as a result of a preliminary review, which was accelerated to evaluate manufacturing processes and procedures upon the report of an operational difficulty with an IV infusion pump at a clinical site. The pump experienced back pressure during IV patient dosing at the point of the filter. Further review discovered preliminary concerns regarding the documentation records of the manufacturing procedures of the drug product associated with APTO-253. A complete safety review of all patient files had been completed prior to initial discovery of the manufacturing documentation irregularities, and there have been no drug-related serious adverse events (SAEs) reported. The observed pharmacokinetic levels in the patients treated were within the expected range. Thus, the clinical hold is based on a manufacturing issue and is not related to safety, efficacy or pharmacokinetics.

Currently, Aptose is guiding qualified contract manufacturing organizations ("CMO") to introduce new methodologies to formulate APTO-253 into a drug product that is safe and stable, and which should not result in filter clogging events in the future. The first CMO has manufactured new GMP batches of the Active Pharmaceutical Ingredient ("API") to provide material for formulation studies and to supply the clinical trials into the future. Aptose also qualified a separate CMO with expertise in liquid formulations to perform formulation development studies and to manufacture the final form of the drug product for return to the clinic. The CMO has performed numerous formulation studies using a variety of methodologies and is now evaluating their solubility and stability over time in an effort to identify an appropriate methodology to manufacture a new batch of drug product to take to the FDA. In order to have the clinical hold lifted and to return APTO-253 to the clinical trial, Aptose must articulate the root cause of the filter clogging incident to the FDA and demonstrate to the FDA that a newly manufactured batch of GMP-grade APTO-253 drug substance has been formulated and is unlikely to cause such incidents in the future. The ultimate decisions regarding the lift of the clinical hold, the appropriateness of the new drug product, and the starting dose for the trial will reside with the FDA.

Multi-Targeting Bromodomain Program

In November 2015, Aptose entered into a definitive agreement with Moffitt Cancer Center for exclusive global rights to potent, multi-targeting, single-agent inhibitors for the treatment of hematologic and solid tumor cancers. These small molecule agents are highly differentiated inhibitors of the Bromodomain and Extra-Terminal motif ("BET") protein family members, which simultaneously target specific kinase enzymes. The molecules developed by Moffitt exhibit nanomolar potency against the BET family members and specific oncogenic kinases which, when inhibited, are synergistic with BET inhibition. Under the agreement, Aptose has access to the drug candidates developed by Moffitt and the underlying intellectual property covering the chemical modifications enabling potent bromodomain (BRD) inhibition on the chemical backbone of a kinase inhibitor. Aptose expects lead clinical candidates to emerge from the collaboration by late 2016.

Multi-Targeting Epigenetic Program

In November 2015, Aptose also announced an exclusive drug discovery partnership with Laxai Avanti Life Sciences ("LALS") for their expertise in next generation epigenetic-based therapies. Under the agreement, LALS will be responsible for developing multiple clinical candidates, including optimizing candidates derived from Aptose's relationship with the Moffitt Cancer Center. Aptose will own global rights to all newly discovered candidates characterized and optimized under the collaboration, including all generated intellectual property.

FINANCING ACTIVITIES

No common shares were issued during the three months ended March 31, 2016.

LIQUIDITY AND CAPITAL RESOURCES

Since its inception, Aptose has financed its operations and technology acquisitions primarily from equity and debt financing, proceeds from the exercise of warrants and stock options, and interest income on funds held for future investment.

We currently do not earn any revenues from our drug candidates and are therefore considered to be in the development stage. The continuation of our research and development activities and the commercialization of the targeted therapeutic products are dependent upon our ability to successfully finance and complete our research and development programs through a combination of equity financing and payments from strategic partners. We have no current sources of significant payments from strategic partners.

CASH POSITION

At March 31, 2016, we had cash and cash equivalents and investments of $15.0 million compared to $19.7 million at December 31, 2015. We generally invest our cash in excess of current operational requirements in highly rated and liquid instruments. Investment decisions are made in accordance with an established investment policy administered by senior management and overseen by our Board of Directors. As at March 31, 2016, our cash and cash equivalents consisted $2.2 million (December 31, 2015 - $761 thousand) and funds in both Canadian and US dollars deposited into high interest savings accounts totaling $4.5 million (December 31, 2015 - $10.7 million). Working capital (representing primarily cash, cash equivalents, investments and other current assets less current liabilities) at March 31, 2016 was $14.0 million (December 31, 2015 – $18.5 million).

We do not expect to generate positive cash flow from operations for the foreseeable future due to additional research and development costs, including costs related to drug discovery, preclinical testing, clinical trials, manufacturing costs and operating expenses associated with supporting these activities. It is expected that negative cash flow will continue until such time, if ever, that we receive regulatory approval to commercialize any of our products under development and/or royalty or milestone revenue from any such products exceeds expenses.

RESULTS OF OPERATIONS

Our net loss for the three months ended March 31, 2016 was $5.1 million ($0.42 per share) compared with $3.6 million ($0.30 per share) during the three months ended March 31, 2015. The increase in net loss is due to increased research and development costs related to APTO-253 as well as a foreign exchange loss on our USD cash and cash equivalents balances due to the appreciation of the Canadian dollar during the quarter.

We utilized cash of $4.5 million in our operating activities in the three months ended March 31, 2016 compared with $2.2 million in the three months ended March 31, 2015. The increase in cash used in operating activities in the current period is due to an increased net loss compared with the prior year as well as a reduction in accounts payable and accrual balances during the quarter compared with an increase in these balances in the three months ended March 31, 2015.

At March 31, 2016, we had cash and cash equivalents and investments of $15.0 million compared to $19.7 million at December 31, 2015.

Research and Development

Research and development expenses totaled $2.3 million in the three months ended March 31, 2016 compared to $884 thousand in the prior year period. Research and development costs consist of the following:

Components of research and development expenses:

	Three months ended	
(in thousands)	**March 31, 2016**	March 31, 2015
Program costs	**$ 2,247**	$ 860
Stock based compensation	**56**	19
Depreciation of equipment	**12**	5
	$ 2,315	$ 884

The increase in research and development costs in the three months ended March 31, 2016 compared with the three months ended March 31, 2015 is due to the following reasons:

- Costs associated with the LALS/Moffitt collaboration developing epigenetic single molecule inhibitors of multiple targets, including the bromodomain and extraterminal domain (BET) proteins, and other kinases for which no comparable expenses existed in the prior year;
- Formulation and manufacturing costs associated with APTO-253 and the root cause analysis of the filter clogging identified in November 2015;
- Increased Contract Research Organization costs related to consultants and advisors as we work towards returning APTO-253 to the clinic; and
- Increased research and clinical operations headcount.

Stock based compensation costs allocated to research and development increased in the three months ended March 31, 2016 to reflect option grants to new employees.

General and Administrative

General and administrative expenses totaled $2.6 million for the three months ended March 31, 2016 compared to $2.7 million in the three months ended March 31, 2015. General and administrative expenses consist of the following:

Components of general and administrative expenses:

	Three months ended	
(in thousands)	**March 31, 2016**	March 31, 2015
General and administrative excluding salaries	**$ 1,133**	$ 1,029
Salaries	**975**	753
Stock based compensation	**479**	940
Depreciation of equipment	**21**	7
	$ 2,608	$ 2,729

General and administrative costs excluding salaries are higher in the three months ended March 31, 2016 compared with the prior year due to higher rent costs associated with our office in San Francisco, additional patent costs due to timing as well as a depreciation in the Canadian dollar compared with the prior year period which has resulted in an increase to the cost of our US dollar denominated expenditures.

Increased salary costs have increased in the three months ended March 31, 2016 compared with the prior year due to additional headcount, the establishment of a benefits plan for employees in the United States and higher Canadian dollar salary costs for our US employees due to the lower value of the Canadian dollar during the three month period compared with the prior year.

Stock-based compensation costs decreased in the three months ended March 31, 2016 compared with prior year due to large option grants in June and July 2014 which vested 50% during the first year and therefore contributed to higher stock based compensation expense during the first twelve month period.

Finance Expense

Finance expense for the three months ended March 31, 2016 was $196 thousand compared with $60 thousand for the three months ended March 31, 2015. Finance expense includes the following items:

	Three months ended	
(in thousands)	**March 31, 2016**	March 31, 2015
Interest expense	**$ -**	$ 20
Foreign exchange loss	**196**	40
	$ 196	$ 60

Interest expense for the three months ended March 31, 2015 relates to interest accrued at a rate of 10% on the remaining balance of convertible promissory notes issued in September 2013 as well as accretion expense related to the conversion feature of the notes. All of the promissory notes have now been converted into common shares.

Foreign exchange loss in the three months ended March 31, 2016 is the result of a decrease in the value of our US dollar denominated cash and cash equivalents balances during the period due to the appreciation of the Canadian dollar compared to the US dollar since January 1, 2016.

Finance Income

Finance income, consisting solely of interest income, totaled $47 thousand in the three months ended March 31, 2016 compared to $104 thousand in the three months ended March 31, 2015. Interest income represents interest earned on our cash and cash equivalent and investment balances.

Net loss for the period

For the reasons discussed above, our net loss for the three months ended March 31, 2016 increased to $5.1 million ($0.42 per share) compared to $3.6 million ($0.30 per share) in the three months ended March 31, 2015.

QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

The selected financial information provided below is derived from our unaudited quarterly financial statements for each of the last eight quarters.

	Q1	**Q4**	**Q3**	**Q2**	**Q1**		**Four months ended**	**Q4**
(Amounts in 000's except for per common share data)	**Mar 31, 2016**	**Dec 31, 2015**	**Sept 30, 2015**	**June 30, 2015**	**Mar 31, 2015**	**Dec 31, 2014**	**Sept 30, 2014**	**May 31, 2014**
Revenue	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Research and development expense	2,315	2,340	1,722	1,308	884	1,093	1,311	1,012
General and administrative expense	2,608	2,364	2,248	2,504	2,729	2,554	2,988	3,192
Net loss	(5,072)	(4,431)	(3,261)	(3,365)	(3,569)	(3,584)	(4,187)	(4,221)
Basic and diluted net loss per share	$ (0.42)	$ (0.38)	$ (0.27)	$ (0.28)	$ (0.30)	$ (0.31)	$ (0.36)	$ (0.49)
Cash (used in) operating activities	$ (4,523)	$ (3,619)	$ (2,567)	$ (4,296)	$ (2,183)	$ (2,745)	$ (3,926)	$ (3,926)

Research and development expenditures have increased over the past three quarters due to the Phase 1b clinical trial of APTO-253 for which the first patient was enrolled in January 2015 and was subsequently placed on hold in November 2015. In fourth quarter of 2015 and first quarter of 2016, research and development expenditures increased further due to costs associated with the quality, manufacturing and formulation work including the Clinical Hold described above as well as costs related to the collaboration agreement with Moffit and LALS.

The increase in general and administrative expense in the three months ended May 31, 2014 is due to severance costs associated with a former officer of the Company of $762 thousand. In the four months ended September 30, 2014, the general and administrative expense is higher due to a four-month versus three-month period in relation to the change in the financial year of the Company. General and administrative costs in the three months ended March 31, 2015 again were higher due to the relocation of the Toronto office and related clean-up costs as well as costs related to our NASDAQ listing. In the three months ended March 31, 2016 costs increased due to our US dollar expenses and payroll costs which were more costly due to the valuation of the Canadian dollar over that time period.

Cash used in operating activities fluctuates significantly due primarily to timing of payments and increases and decreases in the accounts payables and accrued liabilities balances.

Contractual Obligations and Off-Balance Sheet Financing

At March 31, 2016, we had contractual obligations requiring annual payments as follows:

(in thousands)	Less than 1 year	1-3 years	3-5 years	Total
Operating leases	$ 544	806	242	$ 1,592

The Company has entered into various contracts with service providers with respect to the clinical development of APTO-253. These contracts could result in future payment commitments of up to approximately $2.6 million over the related service period. Of this amount, $720 thousand has been paid and $41 thousand has been accrued at March 31, 2016. The payments are based on services performed and amounts may be higher or lower based on actual services performed.

As at March 31, 2016, we have not entered into any off-balance sheet arrangements other than the operating leases for our offices and labs and certain office equipment.

RISK FACTORS

Before making an investment decision with respect to our common shares, you should carefully consider the following risk factors, in addition to the other information included or incorporated by reference into this report. The risks set out below are not the only risks we face. If any of the following risks should be realized, our business, financial condition, prospects or results of operations would likely suffer. In that case, the trading price of our common shares could decline and you may lose all or part of the money you paid to buy our common shares.

Please refer to our December 31, 2015 MD&A for a complete discussion of risks and uncertainties.

- We are at an early stage of development. Significant additional investment will be necessary to complete the development of any of our products to approval.
- We need to raise additional capital. Due to our lack of product revenues, we have an ongoing need to raise additional capital. To obtain the necessary capital, we must rely on some or all of the following: additional share issuances, debt issuances, collaboration agreements or corporate partnerships and grants and tax credits to provide full or partial funding for our activities. Additional funding may not be available on terms that are acceptable to us or in amounts that will enable us to carry out our business plan.
- We have a history of operating losses. We expect to incur net losses and we may never achieve or maintain profitability.
- Clinical trials are long in duration, expensive and uncertain processes and the FDA may ultimately not approve any of our product candidates. We may never develop any commercial drugs or other products that generate revenues.
- We may not achieve our projected development goals in the time frames we announce and expect.
- Delays in clinical testing could result in delays in commercializing our product candidates and our business may be substantially harmed.
- We rely on contract manufacturers over whom we have limited control. If we are subject to quality, cost or delivery issues with the preclinical and clinical grade materials supplied by contract manufacturers, our business operations could suffer significant harm.
- If we have difficulty enrolling patients in clinical trials, the completion of the trials may be delayed or cancelled.
- If we are unable to successfully develop companion diagnostics for our therapeutic product candidates, or experience significant delays in doing so, we may not achieve marketing approval or realize the full commercial potential of our therapeutic product candidates.
- We rely and will continue to rely on third parties to conduct and monitor many of our preclinical studies and our clinical trials, and their failure to perform as required could cause substantial harm to our business.

- We heavily rely on the capabilities and experience of our key executives and scientists and the loss of any of them could affect our ability to develop our products.
- Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.
- We may expand our business through the acquisition of companies or businesses or by entering into collaborations or by in-licensing product candidates, each of which could disrupt our business and harm our financial condition.
- Negative results from clinical trials or studies of others and adverse safety events involving the targets of our products may have an adverse impact on our future commercialization efforts.
- As a result of intense competition and technological change in the biotechnical and pharmaceutical industries, the marketplace may not accept our products or product candidates, and we may not be able to compete successfully against other companies in our industry and achieve profitability.
- We may be unable to obtain patents to protect our technologies from other companies with competitive products, and patents of other companies could prevent us from manufacturing, developing or marketing our products.
- Our products and product candidates may infringe the intellectual property rights of others, or others may infringe on our intellectual property rights which could increase our costs.
- We may incur substantial cost in defending our intellectual property.
- If product liability, clinical trial liability or environmental liability claims are brought against us or we are unable to obtain or maintain product liability, clinical trial or environmental liability insurance, we may incur substantial liabilities that could reduce our financial resources.
- We may be unable to obtain partnerships for one or more of our product candidates which could curtail future development and negatively impact our share price. In addition, our partners might not satisfy their contractual responsibilities or devote sufficient resources to our partnership.
- We may be exposed to fluctuations of the Canadian dollar against certain other currencies because we publish our consolidated financial statements and hold our investments in Canadian dollars, while we incur many of our expenses in foreign currencies, primarily the United States dollar. Fluctuations in the value of currencies could cause us to incur currency exchange losses.
- We are subject to extensive government regulation.
- Our share price has been and may continue to be volatile and an investment in our common shares could suffer a decline in value.
- Future sales of our common shares by us or by our existing shareholders could cause our share price to fall.
- We are susceptible to stress in the global economy therefore, our business may be affected by the current and future global financial condition.
- There is no assurance that an active trading market in our common shares will be sustained.
- It may be difficult for non-Canadian investors to obtain and enforce judgments against us because of our Canadian incorporation and presence.
- We are likely a “passive foreign investment company” which may have adverse U.S. federal income tax consequences for U.S. shareholders.
- We are an “emerging growth company,” and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common shares less attractive to investors.
- Any failure to maintain an effective system of internal controls may result in material misstatements of our consolidated financial statements or cause us to fail to meet our reporting obligations or fail to prevent fraud; and in that case, our shareholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our common shares.
- As a foreign private issuer, we are not subject to certain United States securities law disclosure requirements that apply to a domestic United States issuer, which may limit the information which would be publicly available to our shareholders.

FINANCIAL INSTRUMENTS

(a) Financial instruments

We have classified our financial instruments as follows:

(in thousands)	March 31, 2016	December 31, 2015
Financial assets:		
Cash and cash equivalents, consisting of high interest savings accounts, measured at amortized cost	$ 6,742	$ 11,503
Investments, consisting of guaranteed investment certificates, measured at amortized cost including accrued interest	8,286	8,245
Financial liabilities:		
Accounts payable, measured at amortized cost	330	522
Accrued liabilities, measured at amortized cost	1,527	1,834

At March 31, 2016, there are no significant differences between the carrying values of these amounts and their estimated market values due to their short-term nature.

(b) Financial risk management

We have exposure to credit risk, liquidity risk and market risk. Our Board of Directors has the overall responsibility for the oversight of these risks and reviews our policies on an ongoing basis to ensure that these risks are appropriately managed.

(i) Credit risk

Credit risk is the risk of financial loss to us if a customer, partner or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from our cash and cash equivalents and investments. The carrying amount of the financial assets represents the maximum credit exposure.

We manage credit risk for our cash and cash equivalents and investments by maintaining minimum standards of R1-low or A-low investments and we invest only in highly rated Canadian corporations with debt securities that are traded on active markets and are capable of prompt liquidation.

(ii) Liquidity risk

Liquidity risk is the risk that we will not be able to meet our financial obligations as they come due. To the extent that we do not believe we have sufficient liquidity to meet our current obligations, the Board considers securing additional funds through equity or debt transactions. We manage our liquidity risk by continuously monitoring forecasts and actual cash flows. All of our financial liabilities are due within the current operating period.

(iii) Market risk

Market risk is the risk that changes in market prices, such as interest rates, foreign exchange rates and equity prices will affect our income or the value of our financial instruments.

We are subject to interest rate risk on our cash and cash equivalents however we do not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates relative to interest rates on the investments, owing to the relative short-term nature of the investments. We do not have any material interest bearing liabilities subject to interest rate fluctuations.

Currency risk is the risk that future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. We are exposed to currency risk from employee costs as well as the purchase of goods and services primarily in the U.S. and on cash held in foreign currencies. Fluctuations in the US dollar exchange rate could potentially have a significant impact on the Company's results. Assuming all other variables remain constant, a 10% depreciation or appreciation of the Canadian dollar against the U.S. dollar would result in an increase or decrease in loss for the year and comprehensive loss of $560 thousand (December 31, 2015- $576 thousand). Balances in foreign currencies at March 31, 2016 are as follows:

(in thousands)		US$ balances at March 31, 2016		US$ balances at December 31, 2015
Cash and cash equivalents	**$**	**5,046**	$	5,000
Accounts payable and accrued liabilities		**(735)**		(838)
	$	**4,311**	$	4,162

The Company does not have any forward exchange contracts to hedge this risk.

The Company does not invest in equity instruments of other corporations.

(c) Capital management

Our primary objective when managing capital is to ensure that we have sufficient cash resources to fund our development activities and to maintain our ongoing operations. To secure the additional capital necessary to pursue these plans, we may attempt to raise additional funds through the issuance of equity or by securing strategic partners.

We include cash and cash equivalents and investments in the definition of capital.

We are not subject to externally imposed capital requirements and there has been no change with respect to the overall capital management strategy during the three months ended March 31, 2016.

USE OF PROCEEDS

The following table provides an update on the anticipated use of proceeds raised in the December 2013 and April 2014 equity offerings along with amounts actually expended.

As of March 31, 2016 the following expenditures have been incurred:

(in thousands)		Previously disclosed		Additional Costs		Spent to Date		Remaining to be spent
Phase Ib clinical trial	**$**	**3,350**	$	**	$	2,052	**$**	**
Depending on the Phase Ib clinical trial of APTO-253 results, fund single agent expansion and drug combination focused Phase 2 Trials in both AML and MDS patients		7,800		-		nil		7,800
APTO-253 manufacturing program		**2,250**		**		1,608		**
Research and development programs[(1)]		**2,000**		-		2,000		**-**
General and corporate purposes[(1)]		**15,869**		-		15,869		**-**
	$	**31,269**	$	**	$	21,529	**$**	**

(1) We have utilized all of the funds allocated from the December 2013 and April 2014 equity offerings to Research and Development programs and General and Corporate purposes and continue to fund expenses through proceeds related to warrant and stock option exercises for which no allocations were stipulated.

** In November 2015, the ongoing Phase 1b clinical trial was placed on clinical hold (as described above). We are diligently working on reinitiating the clinical trial, however the ultimate decisions, and the related costs, regarding the lift of the clinical hold, the appropriateness of the new drug product, and the starting dose for the trial will depend on the outcome of our discussions with the FDA and may vary significantly. As such, we are not currently in a position to reasonably estimate the total costs to be incurred to complete the Phase 1b clinical trial and associated manufacturing program and do not anticipate to be in such a position until we receive additional feedback from the FDA.

We do not anticipate initiating the Phase 2 trials until the results of the Phase Ib are available and only then if the results warrant further clinical investigation.

EVALUATION OF DISCLOSURE CONTROLS AND INTERNAL CONTROLS

There have been no changes in the Company's internal control over financial reporting that occurred during the three months ended March 31, 2016 that have materially affected or are reasonably likely to materially affect the Company's internal controls over financial reporting.

UPDATED SHARE INFORMATION

As at May 10, 2016, we had 12,163,382 common shares issued and outstanding. In addition there were 2,045,818 common shares issuable upon the exercise of outstanding stock options and a total of 72,605 common shares issuable upon the exercise of common share purchase warrants.

ADDITIONAL INFORMATION

Additional information relating to Aptose, including Aptose' December 31, 2015 annual report on form 20-F and other disclosure documents, are available on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.shtml.

FORM 52-109F2
CERTIFICATION OF INTERIM FILINGS– FULL CERTIFICATE

I, William G. Rice, Chairman, President and Chief Executive Officer of Aptose Biosciences Inc. certify the following:

1. ***Review:*** I have reviewed the interim financial report and interim MD&A (together, the "interim filings") of Aptose Biosciences Inc. (the "issuer") for the interim period ended March 31, 2016.

2. ***No misrepresentations:*** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.

3. ***Fair presentation:*** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.

4. ***Responsibility:*** The issuer's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in National Instrument 52-109 *Certification of Disclosure in Issuers' Annual and Interim Filings*, for the issuer.

5. ***Design:*** Subject to the limitations, if any described in paragraphs 5.2 and 5.3, the issuer's other certifying officer(s) and I have, as at the end of the period covered by the interim filings

   (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that

      (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared;

      (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and

   (b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer's GAAP.

5.1 ***Control framework:*** The control framework the issuer's other certifying officer(s) and I used to design the issuer's ICFR is Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission.

5.2 ***ICFR -- material weakness relating to design:*** N/A

5.3 ***Limitation on scope of design:*** N/A

6. ***Reporting changes in ICFR:*** The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on January 1, 2016 and ended on March 31, 2016 that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: May 10, 2016

/s/ William G. Rice
William G. Rice
Chairman, President and Chief Executive Officer

FORM 52-109F2
CERTIFICATION OF INTERIM FILINGS– FULL CERTIFICATE

I, Gregory K. Chow, Senior Vice President and Chief Financial Officer of Aptose Biosciences Inc. certify the following:

1. ***Review:*** I have reviewed the interim financial report and interim MD&A (together, the "interim filings") of Aptose Biosciences Inc. (the "issuer") for the interim period ended March 31, 2016.

2. ***No misrepresentations:*** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.

3. ***Fair presentation:*** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.

4. ***Responsibility:*** The issuer's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in National Instrument 52-109 *Certification of Disclosure in Issuers' Annual and Interim Filings*, for the issuer.

5. ***Design:*** Subject to the limitations, if any described in paragraphs 5.2 and 5.3, the issuer's other certifying officer(s) and I have, as at the end of the period covered by the interim filings

   (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that

      (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared;

      (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and

   (b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer's GAAP.

5.1 ***Control framework:*** The control framework the issuer's other certifying officer(s) and I used to design the issuer's ICFR is Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission.

5.2 ***ICFR -- material weakness relating to design:*** N/A

5.3 ***Limitation on scope of design:*** N/A

6. ***Reporting changes in ICFR:*** The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on January 1, 2016 and ended on March 31, 2016 that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: May 10, 2016

/s/ Gregory K. Chow
Gregory K. Chow
Senior Vice President and Chief Financial Officer