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

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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 November 2016

Commission File Number: 001-32001

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**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)*

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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-F  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)

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**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 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: November 14, 2016

By: “Gregory Chow”  
Name: Gregory Chow  
Title: Senior Vice President and Chief Financial Officer

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## EXHIBIT LIST

- 99.1 Interim Financial Statements
- 99.2 Management's Discussion and Analysis
- 99.3 CEO and CFO Certificates

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

<i>(amounts in 000's of Canadian Dollars)</i>	as at	September 30, 2016	December 31, 2015
<b>ASSETS</b>			
<b>Current</b>			
Cash and cash equivalents (note 4(a))	\$	10,340	\$ 11,503
Investments (note 4(b))		-	8,245
Prepaid expenses and other assets		429	1,067
<b>Total Current Assets</b>		<b>10,769</b>	<b>20,815</b>
<b>Non-current</b>			
Equipment		339	434
<b>Total Non-Current Assets</b>		<b>339</b>	<b>434</b>
<b>Total Assets</b>	\$	<b>11,108</b>	\$ 21,249
<b>LIABILITIES</b>			
<b>Current</b>			
Accounts payable	\$	127	\$ 522
Accrued liabilities		1,912	1,834
<b>Total Current Liabilities</b>		<b>2,039</b>	<b>2,356</b>
<b>SHAREHOLDERS' EQUITY</b>			
<b>Share capital (note 6)</b>			
Common shares		226,590	223,425
Stock options (notes 6 and 7)		7,822	6,256
Contributed surplus		22,267	22,037
Warrants		-	84
Deficit		(247,610)	(232,909)
<b>Total Equity</b>		<b>9,069</b>	<b>18,893</b>
<b>Total Liabilities and Equity</b>	\$	<b>11,108</b>	\$ 21,249

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

*Commitments, contingencies and guarantees (Note 10)*

*Going concern (Note 2(b))*

**Aptose Biosciences Inc.**  
**Condensed Consolidated Interim Statements of Loss and Comprehensive Loss**

(unaudited)

	Three months ended Sept. 30, 2016	Three months ended Sept. 30, 2015	Nine months ended Sept. 30, 2016	Nine months ended Sept. 30, 2015
<i>(amounts in 000's of Canadian Dollars except for per common share data)</i>				
<b>REVENUE</b>	\$ -	\$ -	\$ -	\$ -
<b>EXPENSES</b>				
Research and development (note 9)	2,164	1,722	7,772	3,914
General and administrative (note 9)	1,932	2,248	6,883	7,481
<b>Operating expenses</b>	<b>4,096</b>	<b>3,970</b>	<b>14,655</b>	<b>11,395</b>
Finance expense (note 9)	-	8	138	43
Finance income (note 9)	(79)	(717)	(92)	(1,243)
<b>Net financing (income) expense</b>	<b>(79)</b>	<b>(709)</b>	<b>46</b>	<b>(1,200)</b>
<b>Net loss and comprehensive loss for the period</b>	<b>4,017</b>	<b>3,261</b>	<b>14,701</b>	<b>10,195</b>
<b>Basic and diluted loss per common share</b>	<b>\$ 0.31</b>	<b>\$ 0.27</b>	<b>\$ 1.19</b>	<b>\$ 0.86</b>
<b>Weighted average number of common shares outstanding used in the calculation of basic and diluted loss per common share (000's) (note 6(d))</b>	<b>12,882</b>	<b>11,964</b>	<b>12,390</b>	<b>11,889</b>

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

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

	Three months ended Sept. 30, 2016	Three months ended Sept. 30, 2015	Nine months ended Sept. 30, 2016	Nine months ended Sept. 30, 2015
<i>(amounts in 000's of Canadian Dollars)</i>				
<b>Cash flows used in operating activities:</b>				
Net loss for the period	\$ (4,017)	\$ (3,261)	\$ (14,701)	\$ (10,195)
Items not involving cash and other adjustments:				
Stock-based compensation	391	651	1,712	2,235
Depreciation of equipment	33	29	98	64
Finance income	(12)	(717)	(92)	(1,243)
Finance expense	-	8	-	43
Unrealized foreign exchange (gain) loss	(50)	-	214	-
Change in non-cash operating working capital (note 8)	378	723	321	51
<b>Cash used in operating activities</b>	<b>(3,277)</b>	<b>(2,567)</b>	<b>(12,448)</b>	<b>(9,045)</b>
<b>Cash flows from financing activities:</b>				
Proceeds from ATM (note 6 (a))	964	10	3,165	10
Exercise of warrants and stock options	-	40	-	888
Interest on promissory notes	-	(5)	-	(25)
<b>Cash provided by financing activities</b>	<b>964</b>	<b>45</b>	<b>3,165</b>	<b>873</b>
<b>Cash flows from investing activities:</b>				
Divestiture of short-term investments	-	(40)	8,245	7,975
Purchase of fixed assets	-	(52)	(3)	(264)
Interest received	12	56	92	232
<b>Cash provided by investing activities</b>	<b>12</b>	<b>(36)</b>	<b>8,334</b>	<b>7,943</b>
<b>Foreign exchange (losses) gains on cash and cash equivalents</b>	<b>50</b>	<b>661</b>	<b>(214)</b>	<b>1,011</b>
<b>Increase in cash and cash equivalents during the period</b>	<b>(2,251)</b>	<b>(1,897)</b>	<b>(1,163)</b>	<b>782</b>
<b>Cash and cash equivalents, beginning of period</b>	<b>12,591</b>	<b>17,044</b>	<b>11,503</b>	<b>14,365</b>
<b>Cash and cash equivalents, end of period</b>	<b>\$ 10,340</b>	<b>\$ 15,147</b>	<b>\$ 10,340</b>	<b>\$ 15,147</b>

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

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

	Common Shares	Stock Options	Warrants	Contributed Surplus	Equity Portion of Convertible Promissory Notes	Deficit	Total
<i>(amounts in 000's of Canadian Dollars)</i>							
Balance, January 1, 2016	\$ 223,425	\$ 6,256	\$ 84	\$ 22,037	\$ -	\$ (232,909)	\$ 18,893
Shares issued under the ATM (note 6)	3,165	-	-	-	-	-	3,165
Stock-based compensation (notes 6 and 7)	-	1,712	-	-	-	-	1,712
Expiry of warrants and vested stock options	-	(146)	(84)	230	-	-	-
Net loss	-	-	-	-	-	(14,701)	(14,701)
<b>Balance, September 30, 2016</b>	<b>\$ 226,590</b>	<b>\$ 7,822</b>	<b>\$ -</b>	<b>\$ 22,267</b>	<b>\$ -</b>	<b>\$ (247,610)</b>	<b>\$ 9,069</b>
Balance, January 1, 2015	\$ 221,259	\$ 4,078	\$ 501	\$ 21,653	\$ 64	\$ (218,283)	\$ 29,272
Warrant and stock option exercises	1,531	(493)	(150)	-	-	-	888
Common shares issued under the ATM	10	-	-	-	-	-	10
Stock-based compensation (notes 6 and 7)	-	2,235	-	-	-	-	2,235
Promissory note conversion (note 6(e))	438	-	-	54	(64)	-	428
Expiry of vested stock options	-	(66)	-	66	-	-	-
Net loss	-	-	-	-	-	(10,195)	(10,195)
<b>Balance, September 30, 2015</b>	<b>\$ 223,238</b>	<b>\$ 5,754</b>	<b>\$ 351</b>	<b>\$ 21,773</b>	<b>\$ -</b>	<b>\$ (228,478)</b>	<b>\$ 22,638</b>

**APTOSE BIOSCIENCES INC.**

**NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**

*Three and nine months ended September 30, 2016*

(Tabular amounts are in 000s)

**1. Reporting Entity**

Aptose Biosciences Inc. ("Aptose" or the "Company") is a clinical-stage biotechnology company developing personalized therapies to address unmet medical needs in oncology, with a particular focus on hematologic malignancies. 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 September 30, 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 November 14, 2016.

***(b) Basis of measurement – Going concern***

These unaudited condensed consolidated interim financial statements have been prepared in accordance with IFRS accounting principles applicable to a going concern using the historical cost basis. The going concern basis contemplates the realization of assets and settlement of liabilities in the normal course of business as they come due for the foreseeable future. The Company incurred a loss of \$14.7 million for the nine-month period ended September 30, 2016, reported a deficit of \$247.6 million and had working capital of \$8.7 million as at September 30, 2016. There is substantial doubt about the Company's ability to continue as a going concern because management has forecast that the Company's current level of cash and cash equivalents will not be sufficient to execute its current planned expenditures for the next 12 months without further financing being obtained.

While the Company has historically been successful in obtaining financing to support operations and is currently evaluating various financing options, there can be no assurance that financing will be available as necessary to meet its continuing expenditures. The Company is also considering alternatives to prioritize its research programs or further reduce expenditures as necessary. The ability of the Company to raise financing could be affected by adverse market conditions, the current status of our product pipeline and various other factors. The issuance of common shares by the Company will result in significant dilution to the equity interest of existing shareholders. Due to these factors, there is substantial doubt as to whether the Company will be able to continue as a going concern and realize its assets and pay its liabilities as they fall due.

These unaudited condensed consolidated interim financial statements do not reflect the adjustments that would be necessary should the Company be unable to continue as a going concern and therefore be required to realize its assets and settle its liabilities and commitments in other than the normal course of business and at amounts different from those in the accompanying unaudited condensed consolidated interim financial statements. Such amounts could be material.

***(c) Functional and presentation currency***

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

***(d) 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 use of the going concern assumption, valuation of contingent liabilities and valuation of tax accounts. Significant estimates also take place in connection with the valuation of share-based compensation, share purchase warrants and finders' 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 and nine month periods ended September 30, 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 and equity comprised of share capital, 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 (see note 6). 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.

**APTOSE BIOSCIENCES INC.****NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**

Three and nine months ended September 30, 2016

(Tabular amounts are in 000s)

**(a) Cash and cash equivalents:**

Cash and cash equivalents consists of cash of \$743 thousand (December 31, 2015 - \$761 thousand) and funds deposited into high interest savings accounts totalling \$9.6 million (December 31, 2015 - \$10.7 million). The current interest rate earned on these deposits is 0.2%-0.75% (December 31, 2015 – 0.2-0.75%).

**(b) Investments:**

As at September 30, 2016, there were no investments outstanding. At December 31, 2015, investments consisted of guaranteed investment certificates with Canadian financial institutions having high credit ratings including six investments with maturity dates from April 22, 2016 to June 19, 2016, bearing interest rates from 1.80% to 2.10% per annum.

**5. Financial instruments****(a) Financial instruments**

The Company has classified its financial instruments as follows:

	As at September 30, 2016	As at December 31, 2015
<b>Financial assets</b>		
Cash and cash equivalents (consisting of high interest savings accounts), measured at amortized cost	\$ 10,340	\$ 11,503
Investments, consisting of guaranteed investment certificates, measured at amortized cost	-	8,245
<b>Financial liabilities</b>		
Accounts payable, measured at amortized cost	127	522
Accrued liabilities, measured at amortized cost	1,912	1,834

At September 30, 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 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. 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. The Company does not have any material interest bearing liabilities subject to interest rate fluctuations.

**APTOSE BIOSCIENCES INC.****NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**

Three and nine months ended September 30, 2016

(Tabular amounts are in 000s)

Currency risk is the risk that future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. Aptose is 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 \$225 thousand (December 31, 2015- \$576 thousand). Balances in foreign currencies at September 30, 2016 are as follows:

	U.S.\$ balances at September 30, 2016		U.S \$ balances at December 31, 2015	
Cash and cash equivalents	\$	2,835	\$	5,000
Accounts payable and accrued liabilities		(1,120)		(838)
	\$	1,715	\$	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.

	Common shares		Warrants	
	Number	Amount	Number	Amount
	(In thousands)		(In thousands)	
<b>Balance, January 1, 2015</b>	<b>11,700</b>	<b>\$ 221,259</b>	<b>209</b>	<b>\$ 501</b>
Warrant exercises	81	503	(81)	(155)
Warrant expiry	-	-	(55)	(262)
Option exercises	143	1,215	-	-
Common shares issued under the ATM	2	10	-	-
Promissory note conversion	122	438	-	-
<b>Balance, December 31, 2015</b>	<b>12,048</b>	<b>\$ 223,425</b>	<b>73</b>	<b>\$ 84</b>
Common shares issued under the ATM	987	3,165	-	-
Expiry of warrants	-	-	(73)	(84)
<b>Balance, September 30, 2016</b>	<b>13,035</b>	<b>\$ 226,590</b>	<b>-</b>	<b>\$ -</b>

**(a) At The Market Facility ("ATM")**

On April 2, 2015, Aptose entered into an ATM equity facility with Cowan and Company, LLC, acting as sole agent. Under the terms of this facility, Aptose may, from time to time, sell shares of common stock having an aggregate offering value of up to US\$20 million through Cowan and Company, LLC. The Company determines, at its sole discretion, the timing and number of shares to be sold under this ATM facility.

During the three months ended September 30, 2016, the Company issued 346,221 common shares through the ATM raising gross proceeds of USD\$826 thousand. Costs associated with the proceeds included a 3% cash commission as well as legal and accounting fees. The net proceeds raised during the quarter totaled USD\$732 thousand or \$964 thousand.

During the nine months ended September 30, 2016 the Company issued 987,955 common shares through the ATM raising gross proceeds of USD\$2.7 million. The net proceeds raised year to date total USD\$2.4 million or \$3.2 million.

**APTOSE BIOSCIENCES INC.**

**NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**

Three and nine months ended September 30, 2016

(Tabular amounts are in 000s)

**(b) Exercise and Expiry of Warrants**

There were no warrants exercised during the nine months ended September 30, 2016.

*Warrants exercised during the nine months ended September 30, 2015:*

(in thousands)	Number	Proceeds
August 2011 warrants (i)	13	\$ 68
June 2013 private placement warrants	47	141
December 2013 broker warrants	18	118
<b>Total</b>	<b>78</b>	<b>\$ 327</b>

In addition to the cash proceeds received, the original fair value related to these warrants of \$150 thousand was transferred from warrants to share capital. This resulted in a total amount of \$477 thousand credited to share capital.

During the three months ended September 30, 2016, 73 thousand warrants with an original fair value of \$84 thousand expired unexercised. The original fair value amount was transferred from warrants to contributed surplus during the quarter.

**(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.

	Nine months ended September 30, 2016	Nine months ended September 30, 2015
Balance, beginning of period	\$ 22,037	\$ 21,653
Exercise of convertible promissory notes	-	54
Expiry of warrants	84	-
Expiry of vested stock options	146	66
<b>Balance, end of period</b>	<b>\$ 22,267</b>	<b>\$ 21,773</b>

**(c) Continuity of stock options**

	Nine months ended September 30, 2016	Nine months ended September 30, 2015
Balance, beginning of period	\$ 6,256	\$ 4,078
Stock based compensation	1,712	2,235
Exercise of stock options	-	(493)
Expiry of vested stock options	(146)	(66)
<b>Balance, end of period</b>	<b>\$ 7,822</b>	<b>\$ 5,754</b>

**(d) Loss per share**

Loss per common share is calculated using the weighted average number of common shares outstanding for the three and nine month periods ending September 30, 2016 calculated as follows:

	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Issued common shares, beginning of period	12,689	11,932	12,048	11,700
Effect of ATM issuances	193	1	342	—
Effect of warrant and option exercises	—	4	—	145
Effect of promissory note conversions	—	27	—	44
	<b>12,882</b>	<b>11,964</b>	<b>12,390</b>	<b>11,889</b>

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

**APTOSE BIOSCIENCES INC.**
**NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**

Three and nine months ended September 30, 2016

(Tabular amounts are in 000s)

**(e) Convertible promissory notes**

During the nine months ended September 30, 2015, \$437.5 thousand promissory notes due in September 2015 incurring interest at a rate of 10% were converted into 122 thousand common shares of the Company. All of the promissory notes were converted prior to September 30, 2015.

**7. Stock options**
**(a) Stock options transactions for the period:**

	Nine months ended September 30, 2016		Nine months ended September 30, 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	478	6.92
Exercised	-	-	(121)	4.66
Expired	(27)	11.12	(4)	21.69
Outstanding, end of period	2,044	\$ 5.78	1,727	\$ 6.28

**(b) Stock options outstanding at September 30, 2016:**

Range of exercise prices	Options outstanding			Options exercisable	
	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	8.3	\$ 3.60	109	\$ 2.82
\$ 4.50 - \$ 5.49	153	7.8	5.26	115	5.26
\$ 5.50 - \$ 5.85	471	7.5	5.70	361	5.70
\$ 5.86 - \$ 6.87	351	7.7	6.24	243	6.17
\$ 6.88 - \$ 79.20	578	8.0	7.55	378	7.84
	2,044	7.9	\$ 5.78	1,206	\$ 6.16

**(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:

	Nine months ended September 30, 2016	Nine months ended September 30, 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%	0.75-1.5%
Expected dividend yield	—	—
Expected volatility	109.5%	103-113%
Expected life of options	5 years	5 years
Weighted average fair value of options granted in the period	\$ 2.99	\$ 5.33

Stock options granted by the Company during the nine months ended September 30, 2016 vest 50% after one year and 16.67% on each of the next three anniversaries.

**APTOSE BIOSCIENCES INC.**
**NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**
*Three and nine months ended September 30, 2016*

(Tabular amounts are in 000s)

Stock options granted by the Company during the nine months ended September 30, 2015 consist of 128,000 options that vest 50%, 25% and 25% on each of the next three anniversaries and 350,000 options that vest 50% on the first anniversary and 16.67% on each of the next three anniversaries (total four year vesting).

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

The Company has available up to 2,275,000 common shares for issuance relating to outstanding options, rights and other entitlements under the stock based compensation plans of the Company as of September 30, 2016.

**8. Additional cash flow disclosures**

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

	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Prepaid expenses and other assets	\$ 140	\$ 271	\$ 638	\$ 267
Accounts payable	17	(14)	(395)	(120)
Accrued liabilities	221	466	78	(96)
	\$ 378	\$ 723	\$ 321	\$ 51

**9. Expenses**

*Components of research and development expenses:*

	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Program costs	\$ 2,081	\$ 1,633	\$ 6,207	\$ 3,750
CrystalGenomics Option Fee (a)	-	-	1,294	-
Stock-based compensation	71	79	236	145
Depreciation of equipment	12	10	35	19
	\$ 2,164	\$ 1,722	\$ 7,772	\$ 3,914

- (a) During the nine months ended September 30, 2016 the Company paid US\$1.0 million (\$1.3 million) to CrystalGenomics for an option fee related to the CG'806 technology. Should the Company elect to exercise the option prior to filing of an Investigational New Drug application with the Food and Drug Administration, the Company would pay an additional US\$2 million in cash or common shares, and would receive full development and commercial rights for the program in all territories outside of Korea and China.

*Components of general and administrative expenses:*

	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
General and administrative excluding salaries	\$ 733	\$ 819	\$ 2,688	\$ 2,997
Salaries	858	838	2,656	2,348
Stock-based compensation	320	572	1,476	2,091
Depreciation of equipment	21	19	63	45
	\$ 1,932	\$ 2,248	\$ 6,883	\$ 7,481

*Components of finance expense:*

	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Interest expense	\$ -	\$ 8	\$ -	\$ 43
Foreign exchange loss	-	-	138	-
	\$ -	\$ 8	\$ 138	\$ 43

**APTOSE BIOSCIENCES INC.****NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS (Unaudited)**

Three and nine months ended September 30, 2016

(Tabular amounts are in 000s)

*Components of finance income:*

	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Interest income	\$ 12	\$ 56	\$ 92	\$ 232
Foreign exchange gain	67	661	-	1,011
	\$ 79	\$ 717	\$ 92	\$ 1,243

**10. Commitments, contingencies and guarantees.**

(in thousands)	Less than 1 year	1-3 years	3-5 years	Total
<b>Operating leases</b>	\$ 338	547	105	\$ 990

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, \$653 thousand has been paid and \$147 thousand has been accrued at September 30, 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 US\$200,000.

**12. Subsequent Events**

Subsequent to the quarter end, the Company issued 419,974 common shares under the ATM for gross proceeds of US\$649 thousand. These transactions will be accounted for in the three months ended December 31, 2016.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

For the three and nine months ended September 30, 2016

November 14, 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 and nine months ended September 30, 2016 and 2015 which are incorporated by reference herein and form an integral part of this MD&A. The September 30, 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](http://www.sedar.com) and EDGAR at [www.sec.gov/edgar.shtml](http://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 ability to obtain the substantial capital we require to fund research and operations;
- our business strategy;
- our clinical development plans;
- 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 continue as a going concern;
- 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.





## PROGRAM UPDATES

### APTO-253

#### *Phase 1b Trial*

APTO-253 is being evaluated by Aptose in a Phase 1b clinical trial in patients with relapsed / refractory hematologic malignancies. 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.

The Phase 1b study was originally designed for approximately 15 patients to be enrolled in each of two arms of the dose escalation phase of the study: arm (A) will include patients with acute leukemias (including acute myeloid leukemia (“AML”)) and high-risk myelodysplastic syndromes (“MDS”); arm (B) will include patients with lymphomas (Hodgkin’s and non-Hodgkin’s Lymphoma) and multiple myeloma, followed by enrollment of an additional fifteen (15) patients in each of two separate disease-specific expansion cohorts, for a total estimated enrollment of 60 patients.

Aptose has modified the clinical trial design for the Phase 1b study, pending submission and review from regulatory authorities (Institutional Review Boards (“IRB”) & the Food and Drug Administration (“FDA”), in order to focus all resources on the patient population most likely to benefit from APTO-253. Under the proposed modification, arm B of the dose-escalation phase of the study, initially designed to enroll approximately 15 patients with multiple myeloma and lymphoma, will be discontinued. Arm A of the study, focused on patients with acute leukemias (particularly AML) and MDS remains unchanged.

Upon completion of the dose-escalation stage of the study and determination of the appropriate dose, the study will enroll hematologic cancer indications selected from the groups that will be studied in the dose-escalation phase, for enrollment in up to two planned disease-specific single-agent expansion cohorts.

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.

#### *Clinical Hold and Current Status*

We announced in November 2015 that the FDA, following a voluntary suspension of dosing by Aptose and discussions with us, placed our Phase 1b clinical trial of APTO-253 in patients with hematologic cancers on clinical hold. This hold was intended to evaluate the administration methods within the trial and to ensure manufacturing and dosing procedures are consistent with FDA guidance and the Code of Federal Regulations.

The voluntary suspension of dosing by Aptose, followed by a clinical hold by the FDA, was initiated to evaluate manufacturing processes and procedures upon the report of an operational difficulty with an IV infusion pump at a clinical site. During dosing of a patient with 100 mg/m<sup>2</sup> dose, the clinical site experienced an infusion pump stoppage, caused by backflow pressure as a result of clogging of the in-line filter used during the infusion. A safety review of the relevant safety data had been completed prior to initial discovery of the manufacturing 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 solely on the operation of the administration of the subject infusion at the clinical site which is related to a product chemistry issue and has not shown to be related to safety, efficacy or pharmacokinetic profile of the molecule.

We have worked with a chemistry-focused Contract Manufacturing Organization (“CMO”) and determined that the root cause of the filter clogging event with the prior drug product was chemistry-based. Likewise, we guided a qualified 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. Good Manufacturing Practice (“GMP”) batches of the Active Pharmaceutical Ingredient (“API”) have been manufactured to provide material for formulation studies and to supply the clinical drug product into the future. Based on numerous formulation studies conducted by a CMO with expertise in formulation development, a new soluble and stable formulation for the drug product has been selected. In parallel with these studies, mock infusion studies using the newly formulated prototype drug product demonstrated no filter clogging, and supplementary mock infusion studies are ongoing at multiple CROs to ensure the durability and solubility of the new formulation to be used in the infusion process/filter clogging that caused the clinical hold. In order to respond to the FDA’s inquiry on the filter clogging issue which could result in the clinical hold being removed, 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 and drug product has been formulated and should not cause such incidents in the future. On September 12, 2016, we submitted a formal response to the FDA regarding the clinical hold of our Phase 1b clinical trial of APTO-253 in patients with hematologic cancers.

On October 12, 2016, we received a response from the FDA informing us that the clinical hold would remain in place until Aptose provides to the FDA the standard chemistry, manufacturing and control (CMC) information on the final GMP drug substance and drug product that will be manufactured for the clinic. Data provided to the FDA in our response to the clinical hold questions were collected using prototype batches of API and drug product. As the drug substance was changed from a salt to a free base, and the proportions of the original excipients were modified in the drug product formulation, the FDA has requested additional information on the GMP-grade drug substance and drug product that is will be manufactured for use in the clinic prior to making a decision on the hold and approval for the re-initiation of the clinical trial.

We believe we have now developed a drug product that does not cause filter clogging or pump stoppage during simulated infusion studies. The new formulation of APTO-253 offers the potential for improved handling characteristics for administration by infusion and the potential for creating new intellectual property. Generation of the additional data requested by FDA is underway, and once available the data will be submitted for FDA review, after which time FDA will make a decision on the clinical hold. Enrollment of patients in the trial may resume only following FDA removal of the clinical hold and IRB approvals at the participating clinical trial sites.

As of November 14, 2016 we have manufactured a batch of APTO-253 drug product that is intended to serve as the clinical supply for the trial, and vials of this new drug product batch have been placed on an accelerated and long-term stability-testing program. Data generated from this drug product batch will comprise much of the CMC package that the company will provide to the FDA.

#### ***CG'806***

In June 2016, Aptose announced a definitive agreement with South Korean company, CrystalGenomics, Inc. (“CG”), granting Aptose an exclusive option to research, develop and commercialize CG026806 (“CG’806”) in all countries of the world except Korea and China, for all fields of use. CG’806 is a highly potent, non-covalent small molecule therapeutic agent. This multi-kinase inhibitor exhibits a picomolar IC<sub>50</sub> toward the FMS-like tyrosine kinase 3 with the Internal Tandem Duplication (“FLT3-ITD”) and potency against a host of mutant forms of FLT3, as well as single-digit nanomolar IC<sub>50</sub>’s against Bruton’s tyrosine kinase (“BTK”) and its C481S mutant (“BTK-C481S”). Aptose paid US\$1.0 million (C\$1.294 million) to CG to acquire the option. Should we elect to exercise the option prior to filing of an Investigational New Drug (“IND”) application with the FDA, we would pay an additional US\$2.0 million in cash or common shares, and would receive full development and commercial rights for the program in all territories outside of Korea and China.

As a potent inhibitor of FLT3-ITD, CG’806 may become an effective therapy in this subset of AML patients, as the FLT3-ITD mutation occurs in approximately 30% of patients with AML. Importantly, CG’806 targets other oncogenic kinases which may also be operative in FLT3-ITD AML, including RET and SRC family kinases, thereby potentially allowing the agent to become an important therapeutic option for this difficult-to-treat patient population.

The C481S mutation of BTK arises from therapy with covalent, irreversible BTK inhibitors that target the active site Cysteine (“Cys”) residue of BTK, thereby conferring resistance to other covalent BTK inhibitors. Of note, following mutation of the Cysteine residue at the 481 position, the “Cys” target of most covalent, irreversible inhibitors no longer exists in the BTK enzyme. As a non-covalent, reversible inhibitor, CG’806 does not rely on the Cysteine 481 residue for inhibition of the BTK enzyme. Consequently, patients relapsed, refractory or intolerant to other commercially approved or development stage BTK inhibitors with chronic lymphocytic leukemia (“CLL”) or mantle cell lymphoma (“MCL”) may continue to be sensitive to CG’806 therapy.

CG’806 is currently in route scouting studies to select an appropriate synthetic pathway to manufacture the molecule, in formulation development studies, and in various preclinical biological pathway and animal efficacy studies. Provided the studies continue on the anticipated timeline, Aptose expects to file an IND application for a first-in-human clinical trial in 2017. CG’806 is being developed as a once-daily, oral therapeutic.

#### ***Multi-Targeting Bromodomain Program***

In November 2015, Aptose entered into a definitive agreement with Moffitt Cancer Center for exclusive global rights to potent, dual-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 were reported to exhibit potency against the BET family members, including bromodomain 4 (“BRD4”), 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 certain chemical modifications enabling bromodomain (“BRD”) inhibition on the chemical backbone of a kinase inhibitor.

### **Multi-Targeting Epigenetic Program**

In November 2015, Aptose also announced an exclusive drug discovery partnership with Laxai Avanti Life Sciences (“LALS”) for the development of next generation epigenetic-based therapies. Under the agreement, LALS is responsible for 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. As of November 2016, Aptose and LALS have generated novel compounds that inhibit both the bromodomain proteins and oncogenic kinases, while improving pharmaceutical properties that could serve as a basis for further optimization towards a lead preclinical candidate. However, due to a prioritization of development efforts, Aptose and LALS have suspended work on the program, and the collaboration with LALS has been terminated. During the hiatus of this program, Aptose and LALS may choose to resume the collaboration in the future.

### **FINANCING ACTIVITIES**

On April 2, 2015, Aptose entered into an at-the-market equity facility (“ATM Facility”) with Cowen and Company, LLC, acting as sole agent. Under the terms of this facility, Aptose may, from time to time, sell common shares having an aggregate offering value of up to US\$20 million through Cowan and Company, LLC. The Company determines, at its sole discretion, the timing and number of shares to be sold under the ATM Facility.

During the three months ended September 30, 2016, the Company issued 346,221 common shares through the ATM Facility raising gross proceeds of US\$826 thousand. During the nine months ended September 30, 2016, the Company issued 987,955 common shares through the ATM Facility raising gross proceeds of US\$2.7 million. Costs associated with the proceeds included a 3% cash commission as well as legal and accounting fees. The net proceeds raised during the nine month period totaled US\$2.4 million or \$3.2 million.

Subsequent to the quarter end, we issued an additional 419,974 common shares under the ATM Facility for gross proceeds of US\$649 thousand.

### **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.

There is substantial doubt about the Company's ability to continue as a going concern because management has forecast that the Company's current level of cash and cash equivalents will not be sufficient to execute its current planned expenditures for the next 12 months without further financing being obtained.

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.

While the Company has historically been successful in obtaining financing to support operations and is currently evaluating various financing options, there can be no assurance that financing will be available as necessary to meet our continuing expenditures. The Company is also considering alternatives to prioritize its research programs or further reduce expenditures as necessary. The ability of the Company to raise financing could be affected by adverse market conditions, the current status of our product pipeline and various other factors. The issuance of common shares by the Company will result in significant dilution to the equity interest of existing shareholders. Due to these factors, there is substantial doubt as to whether the Company will be able to continue as a going concern and realize its assets and pay its liabilities as they fall due.

The financial statements do not reflect the adjustments that would be necessary should the Company be unable to continue as a going concern and therefore be required to realize its assets and settle its liabilities and commitments in other than the normal course of business and at amounts different from those in the interim financial statements. Such amounts could be material.

### **CASH POSITION**

At September 30, 2016, we had cash and cash equivalents of \$10.3 million compared to cash and cash equivalents and investments of \$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 Audit Committee and Board of Directors. As at September 30, 2016, our cash consisted of \$743 thousand (December 31, 2015 - \$761 thousand) and funds deposited into high interest savings accounts in both Canadian and US funds totaling \$9.6 million (December 31, 2015 - \$10.7 million). Working capital (representing primarily cash, cash equivalents, investments and other current assets less current liabilities) at September 30, 2016 was \$8.7 million (December 31, 2015 - \$18.5 million). Total assets as of September 30, 2016 total \$11.1 million (December 31, 2015 - \$21.2 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 September 30, 2016 was \$4.0 million (\$0.31 per share) compared with \$3.3 million (\$0.27 per share) in the same period in the prior year. Net loss for the nine months ended September 30, 2016 was \$14.7 million (\$1.19 per share) compared with \$10.2 million (\$0.86 per share) during the nine months ended September 30, 2015.

The increase in net loss during the three months ended September 30, 2016 in comparison to the three months ended September 30, 2015 is the result of higher research and development costs due to costs associated with APTO-253 and efforts to return the program to the clinic as well as costs related to the Moffit/LALS development program. In the three months ended September 30, 2016 we recognized a foreign exchange gain of \$67 thousand compared with a gain of \$661 thousand in the three months ended September 30, 2015 which offset our loss in the prior year.

The increase in net loss during the nine months ended September 30, 2016 compared with the nine month period ended September 30, 2015 is primarily due to higher research and development activities related to the \$1.294 million option fee for CG'806, costs associated with APTO-253 and the new Moffit/LALS program as well as additional headcount in the research and clinical departments to support these activities. In addition, the lower Canadian dollar resulted in an increase in our US dollar denominated costs in comparison with the prior year. Additionally, we recognized net finance income of \$1.2 million in the prior year period due to gains on our US dollar denominated cash and cash equivalents compared with a net finance loss of \$46 thousand in the current year period due to foreign exchange losses on our US dollar denominated cash and cash equivalents.

We utilized cash of \$3.3 million in our operating activities in the three months ended September 30, 2016 compared with \$2.6 million during the three months ended September 30, 2015. For the nine months ended September 30, 2016 we utilized cash of \$12.4 million compared with \$9.0 million in the nine months ended September 30, 2015. The cash utilized in the three months ended September 30, 2016 is higher than the three months ended September 30, 2015 due to a higher net loss as well as cash used to reduce accounts payable and accrual balances in the prior year period. The cash utilized in the nine months ended September 30, 2016 increased compared to the prior year period predominantly due to an increased net loss in the current year period.

At September 30, 2016, we had cash and cash equivalents of \$10.3 million compared to cash and cash equivalents and investments of \$19.7 million at December 31, 2015.

### Research and Development

Research and development expenses totaled \$2.2 million in the three months ended September 30, 2016 compared to \$1.7 million during the three months ended September 30, 2015 and totaled \$7.8 million for the nine month period ended September 30, 2016 compared with \$3.9 million in the same period in the prior year. Research and development costs consist of the following:

#### Components of research and development expenses:

(in thousands)	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Program costs	\$ 2,081	\$ 1,633	\$ 6,207	\$ 3,750
CrystalGenomics Option Fee	-	-	1,294	-
Stock-based compensation	71	79	236	145
Depreciation of equipment	12	10	35	19
	\$ 2,164	\$ 1,722	\$ 7,772	\$ 3,914

The increase in program costs in the three and nine months ended September 30, 2016 compared with the three and nine months ended September 30, 2015 is due to the following reasons:

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

During the nine months ended September 30, 2016, we paid US\$1.0 million (CA\$1.294 million) to CG for an option fee related to the CG'806 technology. Should we elect to exercise the option prior to filing of an IND application with the FDA, we would pay an additional US\$2.0 million in cash or common shares, and would receive full development and commercial rights for the program in all territories outside of Korea and China. No comparable expense existed in the same period in the prior year.

Stock-based compensation was consistent in the three months ended September 30, 2016 compared with the three months ended September 30, 2015. While the number of option grants in the current year was higher than the prior year, the fair value of those grants was lower in the current year due to a lower stock price.

Stock-based compensation costs allocated to research and development increased in the nine months ended September 30, 2016 to reflect option grants to new employees hired in the second half of 2015 as the expense related to those grants was amortized 50% in the first 12 months.

#### *General and Administrative*

General and administrative expenses totaled \$1.9 million in the three-month period ended September 30, 2016 compared to \$2.2 million in the three months ended September 30, 2015. For the nine month period ended September 30, 2016, general and administrative expenses totaled \$6.9 million compared with \$7.5 million in the same period in the prior year. General and administrative expenses consist of the following:

#### *Components of general and administrative expenses:*

(in thousands)	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
General and administrative excluding salaries	\$ 733	\$ 819	\$ 2,688	\$ 2,997
Salaries	858	838	2,656	2,348
Stock-based compensation	320	572	1,476	2,091
Depreciation of equipment	21	19	63	45
	\$ 1,932	\$ 2,248	\$ 6,883	\$ 7,481

General and administrative expenses excluding salaries, decreased in the three months ended September 30, 2016 compared with the three months ended September 30, 2015. The decrease is primarily attributable to lower travel, legal and consulting costs associated with projects completed in the prior year offset by higher patent costs in the current year due to new programs acquired in late 2015 and 2016.

General and administrative expenses excluding salaries, decreased in the nine months ended September 30, 2016 compared with the nine months ended September 30, 2015. The decrease is the result of lower travel, consulting and legal costs in the current year related to transactions completed in the prior year as well as lower press release and filing costs associated with a lower cost service provider in the current year periods.

Salary charges in the three months ended September 30, 2016 were consistent with the prior year period as headcount was consistent year over year in the three month period.

Salary charges in the nine months ended September 30, 2016 increased in comparison with the nine months ended September 30, 2015 due to additional headcount in the first half of 2016 compared with the first half of 2015 as well as a higher average CA/US exchange rate which increased the cost of our US denominated salaries in the first six months of 2016 in comparison with the prior year.

Stock-based compensation decreased in the three months ended September 30, 2016 compared with the three months ended September 30, 2015 due to options granted in the current year having a lower valuation and therefore expense compared with options granted in the prior year.

Stock-based compensation decreased in the nine months ended September 30, 2016 compared with the nine months ended September 30, 2015 due to large option grants in April, June and July 2014 which vested 50% during the first year and therefore contribute to higher stock-based compensation expense during the first twelve month period captured in the prior year period.

#### *Finance Expense*

Finance expense for the three months ended September 30, 2016 totaled \$nil compared with \$8 thousand for the three months ended September 30, 2015. For the nine months ended September 30, 2016, finance expense totaled \$138 thousand compared with \$43 thousand for the same period in the prior year. Finance expense includes the following items:

(in thousands)	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Interest expense	\$ -	\$ 8	\$ -	\$ 43
Foreign exchange loss	-	-	138	-
	\$ -	\$ 8	\$ 138	\$ 43

Interest expense for the three and nine months ended September 30, 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. As the promissory notes were converted before September 2015, no interest expense was incurred in 2016.

Foreign exchange loss is the result of the fluctuation of exchange rates between US and Canadian dollars and the impact on our US dollar denominated cash balances.

#### *Finance Income*

Finance income totaled \$79 thousand in the three months ended September 30, 2016 compared to \$717 thousand in the three months ended September 30, 2015. For the nine months ended September 30, 2016, finance income totaled \$92 thousand compared with \$1.2 million in the same period in the prior year. Finance income includes the following items:

(in thousands)	Three months ended		Nine months ended	
	September 30, 2016	2015	September 30, 2016	2015
Interest income	\$ 12	\$ 56	\$ 92	\$ 232
Foreign exchange gain	67	661	-	1,011
	\$ 79	\$ 717	\$ 92	\$ 1,243

Interest income represents interest earned on our cash and cash equivalent and investment balances. Foreign exchange gains are the result of an increase in the value of US dollar denominated cash and cash equivalents balances during such periods due to a depreciation of the Canadian dollar compared to the US dollar.

#### *Net loss for the period*

For the reasons discussed above, our net loss for the three months ended September 30, 2016 increased to \$4.0 million (\$0.31 per share) compared to \$3.3 million (\$0.27 per share) in the three months ended September 30, 2015 and increased in the nine months ended September 30, 2016 to \$14.7 million (\$1.19 per share) compared to \$10.2 million (\$0.86 per share) in the nine months ended September 30, 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.

	Q3		Q2		Q1		Q4		Q3		Q2		Q1			
<i>(Amounts in 000's except for per common share data)</i>	Sept 30, 2016		June 30, 2016		Mar 31, 2016		Dec 31, 2015		Sept 30, 2015		June 30, 2015		Mar 31, 2015		Dec 31, 2014	
Revenue	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
Research and development expense		2,164		3,293		2,315		2,340		1,722		1,308		884		1,093
General and administrative expense		1,932		2,343		2,608		2,364		2,248		2,504		2,729		2,554
Net loss		(4,017)		(5,612)		(5,072)		(4,431)		(3,261)		(3,365)		(3,569)		(3,584)
Basic and diluted net loss per share	\$	(0.31)	\$	(0.46)	\$	(0.42)	\$	(0.38)	\$	(0.27)	\$	(0.28)	\$	(0.30)	\$	(0.31)
Cash (used in) operating activities	\$	(3,277)	\$	(4,648)	\$	(4,523)	\$	(3,619)	\$	(2,567)	\$	(4,296)	\$	(2,183)	\$	(2,745)

Research and development expenditures increased in the three months ended June 30, 2016 due to the \$1.294 million option fee paid to CG as previously described herein. Research and development expenses increased in the quarters ended September 30, 2016, March 31, 2016 and December 31, 2015 in comparison to the prior year 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, and the costs associated with the quality, manufacturing and formulation work including the clinical hold previously described herein as well as costs related to the collaboration agreement with Moffit and LALS.

General and administrative costs in the three months ended March 31, 2015 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 devaluation of the Canadian dollar over that time period. The decrease in general and administrative costs in the three months ended September 30, 2016 is primarily due to lower stock based compensation expense.

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 September 30, 2016, we had contractual obligations requiring annual payments as follows:

(in thousands)	Less than 1 year	1-3 years	3-5 years	Total
<b>Operating leases</b>	\$ 338	547	105	\$ 990

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, \$653 thousand has been paid and \$147 thousand has been accrued at September 30, 2016. The payments are based on services performed and amounts may be higher or lower based on actual services performed.

As at September 30, 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.**

- Our ability to continue as a going concern.
- 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.
- The FDA may not remove the clinical hold described herein and may not allow resumption of the Phase 1b clinical trial with APTO-253.
- 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.



- 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.
- 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 most of 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)	September 30, 2016	December 31, 2015
<b>Financial assets:</b>		
Cash and cash equivalents, consisting of high interest savings accounts, measured at amortized cost	\$ 10,340	\$ 11,503
Investments, consisting of guaranteed investment certificates, measured at amortized cost including accrued interest	-	8,245
<b>Financial liabilities:</b>		
Accounts payable, measured at amortized cost	127	522
Accrued liabilities, measured at amortized cost	1,912	1,834

At September 30, 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 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 \$225 thousand (December 31, 2015- \$576 thousand). Balances in foreign currencies at September 30, 2016 are as follows:

(in thousands)	US\$ balances at September 30, 2016		US\$ balances at December 31, 2015	
Cash and cash equivalents	\$	2,835	\$	5,000
Accounts payable and accrued liabilities		(1,120)		(838)
	\$	1,715	\$	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 risk management strategy during the three months ended September 30, 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 September 30, 2016 the following expenditures have been incurred:

(in thousands)	Previously disclosed	Additional Costs	Spent to Date	Remaining to be spent
Phase 1b clinical trial	\$ 3,350	\$ 6,500	\$ 2,052	\$ 7,798
Depending on the Phase 1b clinical trial of APTO-253 results, fund single agent expansion and drug combination focused Phase 2 Trials in both AML and MDS patients <sup>(2)</sup>	7,800	-	nil	-
APTO-253 manufacturing program	2,250	2,750	2,401	2,599
Research and development programs <sup>(1)</sup>	2,000	-	2,000	-
General and corporate purposes <sup>(1)</sup>	15,869	-	15,869	-
	\$ 31,269	\$ 9,250	\$ 22,322	\$ 10,397

- (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.
- (2) It is expected that the Company will need to raise additional funds in order to be able to complete the expansion studies. As such the funds allocated to these trials will be re-directed to the Phase 1b clinical trial and manufacturing program.

We do not have sufficient cash on hand to fund the activities listed above as well as our general and corporate expenditures and as such we will need to raise additional capital in order to complete the Phase 1b clinical trial.

### CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS

#### Critical Accounting Policies and Estimates

The preparation of these consolidated 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 consolidated financial statements and reported amounts of revenue and expenses during the reporting period. Actual outcomes could differ from those estimates. The consolidated financial statements include estimates, which, by their nature, are uncertain.

In our 2015 annual audited consolidated financial statements and notes, as well as in our 2015 annual MD&A, we have identified the accounting policies and estimates that are critical to the understanding of our business operations and our results of operations. Our critical accounting estimates and assumptions remain substantially unchanged from those disclosed in our 2015 annual audited consolidated financial statements and notes and 2015 annual MD&A.

#### **CHANGES IN ACCOUNTING POLICIES**

There were no new accounting policies adopted during the three months ended September 30, 2016.

#### **EVALUATION OF DISCLOSURE CONTROLS AND INTERNAL CONTROL**

There were no changes in our internal control over financial reporting that occurred during the three months ended September 30, 2016 that have materially affected, or are reasonably likely to materially affect our internal control over financial reporting. As of September 30, 2016, we have assessed the effectiveness of our internal control over financial reporting and disclosure controls and procedures using the Committee of Sponsoring Organizations of the Treadway Commission's 2013 framework. Based on their evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that these controls and procedures are effective.

#### **UPDATED SHARE INFORMATION**

As at November 14, 2016, we had 13,455,384 common shares issued and outstanding. In addition there were 2,038,422 common shares issuable upon the exercise of outstanding stock options.

#### **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 EDGAR at [www.sec.gov/edgar.shtml](http://www.sec.gov/edgar.shtml) and on SEDAR at [www.sedar.com](http://www.sedar.com).

**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 September 30, 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 July 1, 2016 and ended on September 30, 2016 that has materially affected, or is reasonably likely to materially affect, the issuer’s ICFR.

Date: November 14, 2016

*/s/ William G. Rice*

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 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 September 30, 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 July 1, 2016 and ended on September 30, 2016 that has materially affected, or is reasonably likely to materially affect, the issuer’s ICFR.

Date: November 14, 2016

/s/ Gregory K. Chow

Gregory K. Chow  
Senior Vice President and Chief Financial Officer