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

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Quarterly Period Ended March 31, 2021

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Transition Period from to

Commission File Number: 1-35447

APTOSE BIOSCIENCES INC.

(Exact Name of Registrant as Specified in Its Charter)

Canada	**98-1136802**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

251 Consumers Road, Suite 1105 Toronto, Ontario, Canada M2J 4R3
(Address of principal executive offices)

647-479-9828
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, no par value	APTO	Nasdaq Capital Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer ☐	Accelerated filer ☐	Non-accelerated filer ☒	Smaller reporting company ☒	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of May 4, 2021 the registrant had 88,943,243 common shares outstanding.

TABLE OF CONTENTS

PART I—FINANCIAL INFORMATION

ITEM 1 – FINANCIAL STATEMENTS

Condensed Consolidated Interim Financial Statements

(Unaudited)

APTOSE BIOSCIENCES INC.

For the three months ended March 31, 2021 and 2020

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Financial Position
(Expressed in thousands of US dollars)
(unaudited)

		March 31, 2021		December 31, 2020
Assets				
Current assets:				
Cash and cash equivalents	$	87,083	$	117,393
Investments		24,999		5,000
Prepaid expenses		1,946		2,554
Other current assets		116		129
Total current assets		114,144		125,076
Non-current assets:				
Property and equipment		243		261
Right-of-use assets, operating leases		808		925
Total non-current assets		1,051		1,186
Total assets	$	115,195	$	126,262
Liabilities and Shareholders' Equity				
Current liabilities:				
Accounts payable	$	1,608	$	2,171
Accrued liabilities		3,231		4,102
Current portion of lease liability, operating leases		530		539
Total current liabilities		5,369		6,812
Non-current liabilities:				
Lease liability, operating leases		420		535
Total liabilities		5,789		7,347
Shareholders' equity:				
Share capital:				
Common shares, no par value, unlimited authorized shares, 88,920,245 and 88,881,737 shares issued and outstanding at March 31, 2021 and December 31, 2020, respectively		429,651		429,523
Additional paid-in capital		57,451		50,861
Accumulated other comprehensive loss		(4,316)		(4,316)
Deficit		(373,380)		(357,153)
Total shareholders' equity		109,406		118,915
Total liabilities and shareholders' equity	$	115,195	$	126,262

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

Subsequent events (note 12)

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statement of Loss and Comprehensive Loss
(Expressed in thousands of US dollars, except for per common share data)
(unaudited)

	Three months ended March 31, 2021	Three months ended March 31, 2020
Revenue	$ -	$ -
Expenses:		
Research and development	8,228	5,934
General and administrative	8,024	5,900
Operating expenses	16,252	11,834
Other income (expense):		
Interest income	27	323
Foreign exchange loss	(2)	(15)
Total other income	25	308
Net loss and comprehensive loss	(16,227)	(11,526)
Basic and diluted loss per common share	$ (0.18)	$ (0.15)
Weighted average number of common shares outstanding used in the calculation of (in thousands)		
Basic and diluted loss per common share	88,884	76,227

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

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Changes in Shareholders' Equity
(Expressed in thousands of US dollars)
(unaudited)

	Common Shares		Additional paid-in capital	Accumulated other comprehensive loss	Deficit	Total
	Shares (thousands)	Amount				
Balance, December 31, 2020	88,882	$ 429,523	$ 50,861	$ (4,316)	$ (357,153)	$ 118,915
Common shares issued upon exercise of stock options	39	128	(53)	-	-	75
Stock-based compensation	-	-	6,643	-	-	6,643
Net loss	-	-	-	-	(16,227)	(16,227)
Balance, March 31, 2021	88,921	$ 429,651	$ 57,451	(4,316)	(373,380)	$ 109,406
Balance, December 31, 2019	76,108	$ 365,490	$ 34,649	$ (4,298)	$ (301,915)	$ 93,926
Common shares issued upon exercise of stock options	162	762	(326)	-	-	436
Stock-based compensation	-	-	4,401	-	-	4,401
Net loss	-	-	-	-	(11,526)	$ (11,526)
Balance, March 31, 2020	76,270	$ 366,252	$ 38,724	$ (4,298)	$ (313,441)	$ 87,237

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

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Cash Flows
(Expressed in thousands of US dollars)
(unaudited)

	Three months ended March 31, 2021	Three months ended March 31, 2020
Cash flows from (used in) operating activities:		
Net loss for the period	$ (16,227)	$ (11,526)
Items not involving cash:		
Stock-based compensation	6,643	4,401
Depreciation and amortization	35	41
Amortization of right-of-use assets	117	115
Interest on lease liabilities	13	18
Unrealized foreign exchange gain	(3)	(15)
Accrued interest on investments	(4)	(60)
Change in operating working capital:		
Prepaid expenses	608	139
Other assets	13	24
Operating lease payments	(137)	(131)
Accounts payable	(563)	57
Accrued liabilities	(871)	(1,174)
Cash used in operating activities	(10,376)	(8,111)
Cash flows from financing activities:		
Issuance of common shares pursuant to exercise of stock options	75	436
Cash provided by financing activities	75	436
Cash flows from (used in) investing activities:		
Acquisition of investments, net	(19,995)	(12,411)
Purchase of property and equipment	(17)	(16)
Cash used in investing activities	(20,012)	(12,427)
Effect of exchange rate fluctuations on cash and cash equivalents held	3	14
Decrease in cash and cash equivalents	(30,310)	(20,088)
Cash and cash equivalents, beginning of period	117,393	79,842
Cash and cash equivalents, end of period	$ 87,083	$ 59,754

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

1. Reporting entity:

Aptose Biosciences Inc. ("Aptose" or the "Company") is a clinical-stage biotechnology company committed to discovering and developing personalized therapies addressing unmet medical needs in oncology. The Company's executive offices are located in San Diego, California and its head office is located in Toronto, Canada.

Aptose has two clinical-stage programs and a second program that is discovery-stage and partnered with another company. Luxeptinib (previously named CG-806), Aptose's pan-FMS-like tyrosine kinase 3 / pan-Bruton's tyrosine kinase inhibitor, is currently enrolling patients in a Phase 1, multicenter, open label, dose-escalation study with expansions to assess the safety, tolerability, PK, and preliminary efficacy of luxeptinib in patients with chronic lymphocytic leukemia (CLL/SLL) or non-Hodgkin lymphomas (NHL). Aptose was granted IND allowance from the U.S Food and Drug Administration (FDA) to initiate a separate Phase 1 trial in patients with relapse or refractory acute myeloid leukemia (AML) in June 2020, and this trial is also enrolling patients. APTO-253, Aptose's second program, is a small molecule MYC inhibitor and is currently enrolling patients in a Phase 1b clinical trial for the treatment of patients with R/R blood cancers, including AML and high-risk Myelodysplastic Syndrome.

We are advancing first-in-class targeted agents to treat life-threatening cancers that, in most cases, are not elective for patients and require immediate treatment. However, COVID-19 has caused global economic and social disruptions that could adversely affect our ongoing and planned research and development of our clinical-stage programs including but not limited to drug manufacturing campaigns, clinical trial activities including enrollment of patients in our ongoing and planned clinical trials, collection and analysis of patient data and eventually, the reporting of results from our trials.

Since our inception, we have financed our operations and technology acquisitions primarily from equity financing, proceeds from the exercise of warrants and stock options, and interest income on funds held for future investment. Our uses of cash for operating activities have primarily consisted of salaries and wages for our employees, facility and facility-related costs for our offices and laboratories, fees paid in connection with preclinical and clinical studies, drug manufacturing costs, laboratory supplies and materials, and professional fees.

We do not expect to generate positive cash flow from operations for the foreseeable future due to the early stage of our clinical trials. 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.

We believe that our cash, cash equivalents and investments on hand at March 31, 2021 will be sufficient to finance our operations for at least 12 months from the issuance date of these financial statements. Our cash needs for the next twelve months include estimates of the number of patients and rate of enrollment of our clinical trials, the amount of drug product that we will require to support our clinical trials, and our general corporate overhead costs to support our operations, and our reliance on our manufacturers. We have based these estimates on assumptions and plans which may change and which could impact the magnitude and/or timing of operating expenses and our cash runway.

Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our trial related to COVID-19, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If necessary funds are not available, we may have to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

2. Significant accounting policies

(a) Basis of consolidation:

These condensed consolidated interim financial statements include the accounts of its subsidiaries. All intercompany transactions, balances, revenue and expenses are eliminated on consolidation.

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

(b) Basis of presentation:

The accompanying unaudited condensed consolidated interim financial statements have been prepared in conformity with generally accepted accounting principles in the United States, or GAAP, for the interim financial information and the rules and regulations of the Securities and Exchange Commission, or SEC, related to quarterly reports on Form 10-Q. Accordingly, they do not include all of the information and disclosures required by GAAP for annual audited financial statements and should be read in conjunction with the Company's audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K, or Annual Report, filed with the SEC on March 23, 2021. In the opinion of management, these condensed consolidated interim financial statements include all adjustments (consisting of normal recurring adjustments) necessary for a fair statement of the financial position, results of operations and cash flows for the periods presented. The results of operations for the interim periods shown in this report are not necessarily indicative of the results that may be expected for any future period, including the full year.

(c) Significant accounting policies, estimates and judgments:

During the three months ended March 31, 2021, there have been no changes to our significant accounting policies as described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

The preparation of the condensed consolidated interim financial statements 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 condensed consolidated interim financial statements include estimates, which, by their nature, are uncertain.

The impacts of such estimates are pervasive throughout the 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.

(d) Foreign currency:

The functional and presentation currency of the Company is the US dollar.

(e) Concentration of risk:

The Company is subject to credit risk from the Company’s cash and cash equivalents and investments. The carrying amount of the financial assets represents the maximum credit exposure. The Company manages credit risk associated with 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 and treasury bills, which are capable of prompt liquidation.

3. Cash and cash equivalents:

Cash and cash equivalents consists of cash of $604 thousand (December 31, 2020 - $329 thousand), deposits in high interest savings accounts, money market funds and accounts and other term deposits with maturities of less than 90 days totaling of $86.479 million (December 31, 2020 - $117.064 million).

4. Prepaid expenses:

	March 31, 2021	December 31, 2020
Prepaid research and development expenses	$ 634	$ 622
Other prepaid expenses	1,312	1,932
	$ 1,946	$ 2,554

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

5. Right-of-use assets:

	Three months ended March 31, 2021	Year ended December 31, 2020
Right-of-use assets, beginning of period	$ 1,848	$ 1,837
Additions to right-of-use assets	-	11
Right-of-use assets, end of period	1,848	1,848
Accumulated amortization	(1,040)	(923)
Right-of use assets, NBV	$ 808	$ 925

6. Investments:

Investments consisted of the following as of March 31, 2021 and December 31, 2020:

		March 31, 2021		
		Cost	Unrealized gain/(loss)	Market value
United States Treasury Bills	$	5,000	-	5,000
Government of Canada Treasury Bills		19,999	-	19,999
	$	24,999	-	24,999

		December 31, 2020		
		Cost	Unrealized gain/(loss)	Market value
United States Treasury Bills	$	5,000	-	5,000
	$	5,000	-	5,000

7. Fair value measurements and financial instruments:

The fair value hierarchy establishes three levels to classify the inputs to valuation techniques used to measure fair value.

Level 1 - inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2 - inputs are quoted prices in markets that are not active, quoted prices for similar assets or liabilities in active markets, inputs other than quoted prices that are observable for the asset or liability, or inputs that are derived principally from or corroborated by observable market data or other means; and

Level 3 - inputs are unobservable (supported by little or no market activity).

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs.

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

The following table presents the Company's assets that are measured at fair value on a recurring basis for the periods presented:

	March 31, 2021	Level 1	Level 2	Level 3
Assets				
Money Market accounts	$ 1,232	$ -	$ 1,232	-
Money Market Funds	40,001	-	40,001	-
High interest savings accounts	45,246	-	45,247	-
United States Treasury Bill	5,000	-	5,000	-
Government of Canada Treasury Bill	19,999	-	19,999	
	$ 111,478	$ -	$ 111,478	$ -

	December 31, 2020	Level 1	Level 2	Level 3
Assets				
Money Market accounts	$ 668	$ -	$ 668	$ -
Money Market Funds	44,000	-	44,000	-
High interest savings accounts	48,397	-	48,397	-
United States Treasury Bill	5,000	-	5,000	-
Government of Canada Treasury Bill	23,999	-	23,999	-
	$ 122,064	$ -	$ 122,064	$ -

8. Accrued liabilities:

Accrued liabilities as of March 31, 2021 and December 31, 2020 consisted of the following:

	March 31, 2021	December 31 2020
Accrued personnel related costs	$ 1,055	$ 1,917
Accrued research and development expenses	1,814	1,932
Other accrued expenses	362	253
	$ 3,231	$ 4,102

9. Lease liability

Aptose leases office space and lab space in San Diego, California. The lease for the office space expires on March 31, 2023 and can be extended for an additional 5 year period. The lease for our lab space expires on February 28, 2022. We lease office space in Toronto, Ontario, Canada and the lease for this location expires on June 30, 2023 with an option to renew for another 5-year period. The Company has not included any extension periods in calculating its right-to-use assets and lease liabilities. The Company also enters into leases for small office equipment.

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

Minimum payments, undiscounted, under our operating leases are as follows:

Years ending December 31,	
2021	$ 415
2022	464
2023	119
Thereafter	-
	$ 998

To calculate the lease liability, the lease payments in the table above were discounted over the remaining term of the leases using the Company's incremental borrowing rate as at January 1, 2019 for existing leases at the time of adopting the Topic 842, and for new leases after the date adoption, as at the date of the execution date of the new lease. The following table presents the weighted average remaining term of the leases and the weighted average discount rate:

	March 31, 2021
Weighted-average remaining term – operating leases (years)	2.0
Weighted-average discount rate – operating leases	5.40%
Lease liability, current portion	530
Lease liability, long term portion	420
Lease liability, total	950

Operating lease costs and operating cash flows from our operating leases are as follows:

	Three months ended March 31, 2021	Three months ended March 31, 2020
Operating lease cost	$ 130	$ 133
Operating cash flows from operating leases	$ 137	$ 131

10. Share capital:

The Company has authorized share capital of an unlimited number of common voting shares.

(a) Equity issuances:

2020 At-The-Market ("ATM") Facility

On May 5, 2020, the Company entered into an equity distribution agreement with Piper Sandler and Canaccord Genuity acting as co-agents in connection with the 2020 ATM Facility. Under the terms of the 2020 ATM Facility, the Company may, from time to time, sell Common Shares having an aggregate offering value of up to $75 million through Piper Sandler and Canaccord Genuity on the Nasdaq Capital Market. During the year ended December 31, 2020 and in the first quarter ended March 21, 2021, the Company did not issue any shares under the 2020 ATM Facility.

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

(b) Loss per share:

Loss per common share is calculated using the weighted average number of common shares outstanding and is presented in the table below:

	Three months ended March 31, 2021	Three months ended March 31, 2020
Net loss	$ (16,227)	$ (11,526)
Weighted-average common shares – basic and diluted	88,884	76,227
Net loss per share – basic and diluted	$ (0.18)	$ (0.15)

The effect of any potential exercise of the Company's stock options outstanding during the three month periods ended March 31, 2021 and March 31, 2020 has been excluded from the calculation of diluted loss per common share as it would be anti-dilutive.

11. Stock-based compensation:

(a) Stock options

Under the Company's stock option plan, options, rights and other entitlements may be granted to directors, officers, employees and consultants of the Company to purchase up to a maximum of 17.5% of the total number of outstanding common shares, estimated at 15.6 million options, rights and other entitlements as at March 31, 2021. Options are granted at the fair market value of the common shares on the closing trading price of the Company's stock on the day prior to the grant if the grant is made during the trading day or the closing trading price on the day of grant if the grant is issued after markets have closed. Options vest at various rates (immediate to four years) and have a term of 10 years.

Stock option transactions for the three months ended March 31, 2021 and March 31, 2020, are summarized as follows:

Option numbers are in (000's)

	Three months ended March 31, 2021		
	Options	Weighted average exercise price	Weighted average remaining contractual life (years)
Outstanding, beginning of period	11,942	$ 4.97	
Granted	2,962	4.47	
Exercised	(39)	1.97	
Forfeited	(703)	5.67	
Outstanding, end of the period	14,162	4.85	7.1
Exercisable, end of the period	7,887	4.59	5.95
Vested and expected to vest, end of period	13,220	4.83	6.99

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

Option numbers are in (000's)

	Three months ended March 31, 2020		
	Options	Weighted average exercise price	Weighted average remaining contractual life (years)
Outstanding, beginning of period	5,941	$ 2.84	
Granted	6,109	6.84	
Exercised	(162)	2.71	
Forfeited	(30)	2.17	
Outstanding, end of the period	11,858	4.84	8.6
Exercisable, end of the period	3,990	2.96	6.8
Vested and expected to vest, end of period	10,678	4.73	8.5

As of March 31, 2021, there was $11.03 million of total unrecognized compensation cost related to non-vested stock options, which is expected to be recognized over an estimated weighted-average period of 1.82 years.

The following table presents the weighted average assumptions that were used in the Black-Scholes option pricing model to determine the fair value of stock options granted during the period, and the resultant weighted average fair values:

	Three months ended March 31, 2021	Three months ended March 31, 2020
Risk-free interest rate	0.4%	1.3%
Expected dividend yield	-	-
Expected volatility	80.7%	85.8%
Expected life of options (years)	5	5
Grant date fair value	$ 2.85	$ 4.60

The Company uses historical data to estimate the expected dividend yield and expected volatility of its common shares in determining the fair value of stock options. The expected life of the options represents the estimated length of time the options are expected to remain outstanding.

The following table presents the vesting terms of options granted in the period:

Option numbers are in (000's)	Three months ended March 31, 2021	Three months ended March 31, 2020
	Number of options	Number of options
Cliff vesting after one year anniversary	-	300
3 year vesting (50%-25%-25%)	430	862
4 year vesting (50%-16 2/3%-16 2/3%-16 2/3%)	2,532	4,947
Total stock options granted in the period	2,962	6,109

- During the quarter ended, 2021, the option agreements of one officer were modified as part of a separation and release agreement. Vested options of 1,679,169, with exercise prices ranging from $1.03 to $7.44, were allowed to continue to be exercisable for an additional 12 month period, and also 504,833 options that would have expired unvested, were allowed to continue to vest for a 12 month period. As there was no service requirement, the company recorded $945 thousand and $663 thousand additional compensation in the current period related to these modifications for the vested and unvested options, respectively.

Restricted share units

The Company has a stock incentive plan (SIP) pursuant to which the Board may grant stock-based awards comprised of restricted stock units or dividend equivalents to employees, officers, consultants, independent contractors, advisors and non-employee directors of the Company. Each restricted unit is automatically redeemed for one common share of the Company upon vesting. The following table presents the activity under the SIP plan for the three months ended March 31, 2021 and 2020 and the units outstanding.

	Three months ended, March 31, 2021		Three months ended, March 31, 2020	
	Number (in thousands)	Weighted average grant date fair value	Number (in thousands)	Weighted average grant date fair value
Outstanding, beginning of period	-	$ -	40	$ 2.00
Granted	-	-	645	7.32
Outstanding, end of period	-	$ -	685	$ 7.01

On March 10, 2020, the Company granted 645,000 restricted share units (RSUs) having a vesting term of three months. On May 5, 2020, the vesting term on the RSUs was extended from three months to four months. On July 10, 2020, all of these restricted share units were vested and were redeemed for 645,000 common shares.

The grant date fair value of the RSUs was determined as the closing value of the common shares of the Company on the Nasdaq Stock Market on the date prior to the date of grant.

(b) Share-based payment expense

The Company recorded share-based payment expense related to stock options as follows:

	Three months ended March 31, 2021	Three months ended March 31, 2020
Research and development	$ 1,378	$ 800
General and administrative	5,265	3,601
Total	$ 6,643	$ 4,401

12. Subsequent events

(a) Subsequent to the quarter end, the Company issued 80,000 common shares upon the exercise of stock options, with an average exercise price of $5.98.

ITEM 2 – MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Quarterly Report on Form 10-Q contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and is subject to the safe harbor created by those sections. For more information, see "Cautionary Note Regarding Forward-Looking Statements." When reviewing the discussion below, you should keep in mind the substantial risks and uncertainties that impact our business. In particular, we encourage you to review the risks and uncertainties described in "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2020, as updated and supplemented in Part II, Item 1A in this Quarterly Report on Form 10-Q. These risks and uncertainties could cause actual results to differ materially from those projected or implied by our forward-looking statements contained in this report. These forward-looking statements are made as of the date of this management's discussion and analysis, and we do not intend, and do not assume any obligation, to update these forward-looking statements, except as required by law.

The following discussion should be read in conjunction with our condensed consolidated interim financial statements and accompanying notes contained in this Quarterly Report on Form 10-Q and our audited financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2020.

All amounts are expressed in United States dollars unless otherwise stated.

OVERVIEW

Aptose Biosciences Inc. ("we", "our", "us", "Aptose" or the "Company") is a science-driven biotechnology company advancing first-in-class targeted agents to treat life-threatening cancers, such as acute myeloid leukemia ("AML"), high-risk myelodysplastic syndromes ("MDS"), chronic lymphocytic leukemia ("CLL") and other hematologic malignancies. Based on insights into the genetic and epigenetic profiles of certain cancers and patient populations, Aptose is building a pipeline of novel oncology therapies directed at dysregulated processes and signaling pathways. Aptose is developing targeted medicines for precision treatment of these diseases to optimize efficacy and quality of life by minimizing the side effects associated with conventional therapies. We currently have in development two molecules: luxeptinib (CG-806) and APTO-253, both being evaluated for safety, tolerability, pharmacokinetics and signals of efficacy in Phase 1 clinical trials. Each molecule is described below.

Luxeptinib is an orally administered, highly potent first-in-class FMS-like tyrosine kinase 3 ("FLT3")/Bruton's tyrosine kinase ("BTK") inhibitor that selectively targets defined clusters of kinases operative in myeloid and lymphoid hematologic malignancies. This mutationally agnostic small molecule anticancer agent is currently being evaluated in a Phase 1a/b study for the treatment of patients having B-cell malignancies including classic CLL, small lymphocytic lymphoma ("SLL") and certain non-Hodgkin's lymphomas ("NHL") that are resistant/refractory/intolerant to other therapies. Under a separate Investigational New Drug ("IND"), luxeptinib is being evaluated in a Phase 1a/b study for the treatment of patients with relapsed/refractory AML ("R/R AML"), including the emerging populations resistant to FLT3 inhibitors. It is hoped luxeptinib can serve patients across lymphoid and myeloid malignancies and combine well with other agents to extend its application to multiple lines of therapy.

APTO-253 is a first-in-class small molecule therapeutic agent that clinically inhibits expression of the MYC oncogene without causing, to date, general myelosuppression of the bone marrow. The MYC oncogene is overexpressed across many hematologic cancers, including AML and certain B cell malignancies, as well as certain solid tumor indications. MYC acts as a transcription factor that regulates cell growth, proliferation, differentiation and apoptosis, and overexpression of MYC amplifies new sets of genes to promote survival of cancer cells. APTO-253 is currently being evaluated in a Phase 1a/b study for the treatment of patients with R/R AML and high-risk MDS. APTO-253 may serve as a safe and effective MYC inhibitor for AML/MDS patients that combines well with other agents and does not significantly impact the normal bone marrow.

Impact of COVID-19 on our Research Programs:

We are advancing first-in-class targeted agents to treat life-threatening cancers that, in most cases, are not elective for patients and require immediate treatment. However, COVID-19 has caused global economic and social disruptions that could adversely affect our ongoing or planned research and development and clinical trial activities including enrollment of patients in our ongoing clinical trials, collection and analysis of patient data and eventually, the reporting of top-line results from our trials.

Our team proactively addressed these new challenges swiftly and appropriately, implementing safeguards and procedures to ensure both the safety of our employees and stakeholders, and accommodate the potential challenges due to COVID-19. Aptose was early in directing its employees to work-from-home and provided the tools to minimize productivity disruptions. Our clinical operations team reached out to active and future clinical sites to determine their needs and challenges and assist where possible, including virtual monitoring of patients, which reduces patients' visits. We also have contacted our drug manufacturers to identify any potential supply chain disruptions and are adjusting accordingly. During the early part of the first quarter of 2020, we began to carefully monitor the potential impact of COVID-19, and on a regular basis, we communicated with investigators at our clinical sites to gain an evolving understanding of competing COVID-19 related activities and clinical trial related activities.

In the beginning of April 2020, we learned that some of our larger clinical sites that are impacted by COVID-19 may either postpone or face delays in the enrollment of patients on all on-going clinical trials due to a number of factors, including the re-allocation of resources and to avoid clinical trial patients being exposed to COVID-19. Such measures taken at the clinical sites could lead to a slowdown in the enrollment of patients on our trials at these sites. To minimize the impact of COVID-19, we continue to focus efforts in parallel on our other larger clinical sites and regional cancer care sites that are not/less impacted by COVID-19. While it is difficult to estimate the duration and impact of COVID-19 on the larger clinical sites and regional cancer care sites, as of the date of this report, we have not experienced and do not foresee material delays to the enrollment of patients or timelines for the luxeptinib clinical trials due to the variety of clinical sites that we have actively recruited. APTO-253, which is administered intravenously, requires the need for hospital / clinical site resources to assist and monitor patients during each infusion and based on the current conditions caused by COVID-19, future enrollment of patients on this trial is likely to be negatively impacted.

As of the date of this report, we have not experienced material delays in the manufacturing of luxeptinib or APTO-253 related to COVID-19. Should our manufacturers experience shortages in staffing or be required to shut down their facilities due to COVID-19 for an extended period of time, our trials may be negatively impacted.

PROGRAM UPDATES

Luxeptinib (CG-806)

Indication and Clinical Trials:

Luxeptinib is being developed with the intent to deliver the agent as an oral therapeutic for the treatment of R/R AML and for the treatment of a spectrum of B cell malignancies (including but not limited to CLL, SLL and NHL).

On March 25, 2019, we announced that the U.S. Food and Drug Administration ("FDA") granted Aptose IND allowance to initiate its Phase 1a/b clinical trial for luxeptinib. The clinical trial is a multicenter, open label, dose-escalation study with additional optional expansion cohorts to assess the safety, tolerability, pharmacokinetics and pharmacodynamic effects, and preliminary efficacy of luxeptinib in patients with CLL, SLL or NHL. In this study, luxeptinib is administered in gelatin capsules twice daily (BID during a 28-day cycle).

As of the date of this report, we have multiple active clinical sites for the Phase 1a/b trial in patients with CLL/SLL or NHL which include specialty regional cancer care centers as well as large hospitals and key academic institutions. As of the date of this report, we have completed the first, second, third and fourth dose levels (150 mg, 300 mg, 450 mg and 600 mg BID, respectively). Cohort 5 (750mg) enrollment is ongoing. Under an FDA-approved accelerated titration protocol, only one patient was required at each of the first two dose levels, followed by three patients at each dose level thereafter. Intra-patient dose escalation is allowed if the higher dose is safe in three or more patients, and additional patients have been and may continue to be enrolled at dose levels previously declared safe. To date, we have reported that among treated patients with an array of B-cell malignancies, we have observed inhibition of phospho-BTK and modest tumor reductions in different tumor types, indicating target engagement and pharmacologic activity of luxeptinib. As luxeptinib moves from low/intermediate dose levels and into the higher dose levels, it is hoped that an optimal dose can be selected that demonstrates formal clinical responses without excessive toxicity.

We are also advancing luxeptinib into myeloid malignancies, with an initial focus on AML, in a separate Phase 1a/b trial. On June 29, 2020, we announced that we had received allowance from the FDA to proceed into a study in R/R AML with a starting dose of 450 mg BID, and subsequently on October 19, 2020, announced that we had initiated dosing of the first patient with AML. Encouraging anti-leukemic activity has been observed at the first dose level of 450mg bid, including one complete response in a patient at the 450mg dose level. Aptose completed the 450 mg bid dose cohort and initiated dosing of patients with the 600 mg bid dose. The clinical trial is a multicenter, open label, dose-escalation study with additional optional expansion cohorts to assess the safety, tolerability, pharmacokinetics and pharmacodynamic effects, and preliminary efficacy of luxeptinib in patients with R/R AML. In this study, luxeptinib is administered in gelatin capsules BID during a 28-day cycle. As of the date of this report we have multiple active clinical sites for the Phase 1a/b trial. Based on strong preclinical evidence of luxeptinib's activity against AML – including demonstration of mutation-agnostic and genotype-agnostic potency, particularly compared against other FLT3 inhibitors, and its ability to safely cure AML in murine leukemia models – we believe that luxeptinib may offer hope to the fragile and difficult-to-treat AML patient populations. The FDA has granted orphan drug designation to luxeptinib for the treatment of patients with AML. Orphan drug designation is granted by the FDA to encourage companies to develop therapies for the treatment of diseases that affect fewer than 200,000 individuals in the United States. Orphan drug status provides research and development tax credits, an opportunity to obtain grant funding, exemption from FDA application fees and other benefits. The orphan drug designation also provides us with seven additional years of marketing exclusivity in this indication.

Manufacturing:

During fiscal years 2017 and 2018, we created a scalable chemical synthetic route for the manufacture of luxeptinib drug substance and have scaled the manufacture of API (active pharmaceutical ingredient, or drug substance) to multi-kg levels, we completed the manufacture of a multi-kg batch of API under GMP conditions as our API supply for our first-in-human clinical trials, and we manufactured under GMP conditions two dosage strengths of capsules to serve as our clinical supply in those human studies. During fiscal 2019 and 2020, we completed successful manufacture of multiple batches of API and drug product and planned numerous GMP production campaigns to supply the ongoing trial and planned trials into the future. To date we have been able to manufacture API and capsules to support clinical supplies under GMP conditions. We are continuing our manufacturing campaigns in the current 2021 fiscal period and continue scale-up and tech transfer activities to support additional manufacturing capacity for the ongoing and planned clinical trials of luxeptinib. Additional research and development funds are being utilized to support exploratory formulation studies in an ongoing effort to craft an improved formulation for later stage development of luxeptinib.

Preclinical and Clinical Updates:

Key presentations on luxeptinib at recent scientific forums are as follows:

On April 15, 2018, at the 2018 Annual Meeting of the American Association for Cancer Research ("AACR"), we presented with the OHSU Knight Cancer Institute preclinical data demonstrating that luxeptinib, a pan-FLT3/pan-BTK inhibitor, demonstrates broader activity and superior potency to other FLT3 and BTK inhibitors against primary bone marrow samples from patients with hematologic malignancies. We also presented preclinical data demonstrating that luxeptinib targets multiple pathways to kill diverse subtypes of AML and B-cell malignancies in vitro.

On June 15, 2018, at the 23rd Congress of the European Hematology Association ("EHA"), we presented, during a poster presentation, preclinical data demonstrating a unique binding mode of luxeptinib to wild type and C481S mutant BTK. Further, we presented that luxeptinib suppresses the BCR, AKT/PI3K, ERK and NFkB signaling pathways and exerts broader and far greater potency of direct cancer cell killing that ibrutinib against malignant bone marrow cells from patients with CLL, ALL and a host of other hematologic malignancies.

On December 3, 2018, we announced two separate poster presentations at the American Society of Hematology ("ASH") Annual Meeting. The OHSU Knight Cancer Institute and Aptose presented data in one poster and the team at The University of MDACC presented data in a separate poster. These presentations highlighted several key findings. First, in collaboration with the MDACC, orally administered luxeptinib demonstrated efficacy in a PDX study in which the bone marrow cells from a patient with AML having dual ITD and D835 mutations in FLT3 were implanted into a mouse. The dual FLT3 mutant form of AML represents a very difficult-to-treat population that has shown resistance to other FLT3 inhibitors, and data from the PDX model suggest that luxeptinib may be useful in treating such patients. Secondly, Aptose presented high level data from preclinical GLP toxicology studies that demonstrate orally administered luxeptinib is a well-tolerated targeted molecule. Finally, in collaboration with the OHSU Knight Cancer Center, studies of luxeptinib on 124 samples of freshly isolated bone marrow from CLL patients demonstrated both broader and greater cell killing potency for luxeptinib than Ibrutinib.

On April 1, 2019, at the 2019 Annual Meeting of the AACR, Aptose, along with our collaborators at OHSU Knight Cancer Institute, presented data highlighting luxeptinib was more potent in killing AML patient-derived samples than other FLT3 inhibitors including midostaurin, sorafenib, sunitinib, dovitinib, quizartinib, crenolanib and gilteritinib. Luxeptinib was equally potent against cells from patients in the adverse, intermediate and favorable risk groups (2017 ELN risk stratification), and cells from patients with relapsed or transformed AML (World Health Organization classification) were as sensitive as those from patients with de novo AML. The data demonstrated potency on primary AML patient samples across all AML subgroups including relapsed/refractory/transformed AML and those with genetic abnormalities related to poor prognosis. While patient samples with FLT3-ITD mutations were expected to have greater sensitivity to luxeptinib, the most surprising correlation was the sensitivity of patient samples with IDH1 R132 mutations. The enhanced sensitivity of IDH-1 mutant AML to luxeptinib warrants investigation in the clinical setting. Moreover, in studies of luxeptinib on AML patient bone marrow samples, we demonstrated that mutations in p53, ASXL1 and NPM1 do not hinder the potency of luxeptinib.

On June 14, 2019, we presented new preclinical data for luxeptinib in a poster presentation at the 24th Congress of the EHA in Amsterdam, the Netherlands. The poster, CG-806, preclinical in vivo efficacy and safety profile as a pan-FLT3 / pan-BTK inhibitor, highlights the in vivo anti-leukemic efficacy of luxeptinib and its GLP toxicology and toxicokinetic profile. In a preclinical MV4-11 FLT3-ITD AML xenograft mouse model, luxeptinib suppressed leukemia growth at all doses tested throughout the 28-day period of dosing. In the mice treated with 100 mg/kg, 5 of 11 (45%) were cured through day 120, and in the 300 mg/kg group, 10 of 11 (91%) of the mice were cured. Retreating the "uncured' mice in these two dose groups for an additional 28 days beginning on day 88 led to rapid and robust antitumor response in all retreated mice through day 120. In the "re-treated" mice, no drug resistance and no toxicities were observed. GLP 28-day toxicology and TK studies mice and dogs showed no adverse luxeptinib-related effects on body weight, ophthalmic, respiratory or neurological examinations, clinical pathology (coagulation, clinical chemistry, or urinalysis), organ weight or macroscopic evaluations. No luxeptinib-related cardiovascular effects were noted in the 28-day GLP toxicology study or in a separate preclinical cardiovascular safety study.

On October 24, 2019, we presented preclinical data in a poster presentation at the 5th International Conference on Acute Myeloid Leukemia "Molecular and Translational" Advances in Biology and Treatment in Estoril, Portugal. The poster, CG-806 Pan-FLT3/Pan-BTK Inhibitor Simultaneously Suppresses Multiple Oncogenic Signaling Pathways to Treat AML, highlighted that luxeptinib acts on large xenograft tumors with no evidence of drug resistance and with no observed toxicity, enhances killing of patient-derived AML and B-cell cancer cells when combined with venetoclax, and retains activity in patient-derived AML cells even when cells harbor mutations of FLT3, IDH-1, NPM1, ASXL1 or p53.

On December 8 and 9, 2019, we presented new preclinical data in two separate poster presentations at the 61st ASH Annual Meeting. On December 8, 2019, the poster CG-806, a First-in-Class Pan-FLT3/Pan-BTK Inhibitor, Exhibits Broad Signaling Inhibition in Chronic Lymphocytic Leukemia Cells compared luxeptinib and ibrutinib, the standard of care, on primary patient cells of CLL highlighting that CG-806 broadly inhibits B-cell receptor signaling in CLL cells, resulting in CLL cell apoptosis and reduced proliferation, luxeptinib is more potent than ibrutinib in inducing apoptosis of MEC1 CLL cells and, finally, luxeptinib targets elements of the CLL microenvironment, and thereby potentially targets pro-survival signals from the microenvironment. The poster presented on December 9, 2019 titled Synergistic Targeting of BTK and E-Selectin/CXCR4 in the Microenvironment of Mantle Cell Lymphomas, explored the effects of luxeptinib on cells of MCL, a rare subtype of aggressive B cell non Hodgkin lymphoma that is incurable with standard therapy, and investigated the molecular mechanisms of acquired resistance to treatment, highlighted that luxeptinib demonstrated superior anti-lymphoma effects compared with ibrutinib, exerting potent cell growth inhibitory effects on ibrutinib-resistant MCL cells, luxeptinib suppresses phospho-BTK, -Stat3, -AKT, -ERK, -Src, NF-kB, and the anti-apoptotic protein Mcl1, while upregulating p53, luxeptinib increased autophagy in MCL cells, which may be associated with resistance to luxeptinib-mediated apoptosis. Inhibition of autophagy re-sensitizes MCL cells to luxeptinib-induced apoptosis, luxeptinib treatment upregulates CXCR4/E-selectin levels in MCL cells and finally, combination of CXCR4/E-selectin antagonists with luxeptinib enhances luxeptinib-induced apoptotic killing of MCL cells in the presence of the tumor microenvironment. On December 7, 2019, Aptose also hosted a corporate event and clinical update, where the company's management and invited Key Opinion Leaders highlighted some early clinical observations on safety, tolerability, pharmacokinetics, and activity, including. The discussion focused on key findings from dose levels one and two of luxeptinib in heavily pretreated R/R CLL patients, including: the clean safety profile to date, with no myelosuppression, drug-related adverse events or dose-limiting toxicity observed; meaningful oral absorption and predictable pharmacokinetic ("PK") profile; evidence of target engagement manifesting as inhibition of Phospho-BTK, Phospho-SYK and Phospho-ERK in a plasma inhibitory assay ("PIA") using plasma from the CLL patient on dose level two, and early evidence of clinical activity in the same patient manifesting as increase in peripheral blood lymphocytes (lymphocytosis), typically associated with BTK inhibition.

On April 27, 2020, we presented the early clinical data on luxeptinib at the AACR Virtual Annual Meeting I in lieu of the live oral presentation originally planned. A video summary of Abstract # 9967 - Early clinical findings from a Phase 1a/b dose escalation trial to evaluate the safety and tolerability of CG-806 in patients with relapsed or refractory CLL/SLL or non-Hodgkin's lymphomas described the first-in-human tests of luxeptinib which are being carried out in a Phase 1a/b clinical study in patients with significant unmet needs including patients with relapsed or refractory CLL, SLL or NHL who had been failed by or been intolerant to two lines of established therapy. We noted that the second patient, treated at the 300 mg BID dose level, represented a classic CLL patient that developed a brisk lymphocytosis (evidence of BTK target engagement and evidence of pharmacologic activity), and that enrollment was continuing.

On June 12, 2020, we presented new clinical data on luxeptinib in a poster presentation at the 25th Congress of the EHA. The poster, Early Clinical Findings from a Phase 1 a/b Dose Escalation Trial to Evaluate the Safety and Tolerability of CG-806 in Patients with Relapsed or Refractory CLL/SLL or Non-Hodgkin's Lymphomas (EHA2020 Abstract# EP711), reviewed luxeptinib data for eight patients (as of the data cut-off date on May 5, 2020) with relapsed or refractory CLL, SLL or NHL in the first in-human Phase 1a/b, open-label, single arm, multicenter dose-escalation clinical study. Data from the ongoing trial demonstrated that luxeptinib was well-tolerated in patients treated at 150 mg, 300 mg, 450 mg BID over multiple cycles, with no dose-limiting toxicities or serious adverse events observed, supporting continued dose escalation. Luxeptinib treatment achieved human steady state PK levels known to be effective in murine tumor models and led to complete inhibition of phospho-BTK and multiple CLL survival pathways. Luxeptinib treatment also led to lymphocytosis in both classic CLL patients entering study with elevated lymphocyte counts and led to complete inhibition of phospho-FLT3, suggesting that dose levels evaluated in this study may be therapeutic in patients with AML.

On June 22, 2020, we presented new preclinical data on luxeptinib in a poster presentation at the AACR Virtual Annual II 2020. The poster, CG-806, a First-in-Class FLT3/BTK Inhibitor, and Venetoclax Synergize to Inhibit Cell Proliferation and to Induce Apoptosis and Aggressive B-cell Lymphomas, illustrated how luxeptinib simultaneously inhibits the driver BCR pathway and PI3K/AKT, NFκB and MAPK-mediated rescue pathways to kill aggressive double-hit and double-expressor B-cell lymphoma cells. Overall, the presented work provided additional mechanistic evidence to support the clinical development of CG-806 as a single agent or in combination with venetoclax in patients with aggressive B-cell lymphomas harboring unfavorable BCL2/MYC/BCL6 translocations and / or overexpression.

- On December 6, 2020, we presented new clinical data in a virtual poster presentation at the 62nd ASH Annual Meeting. The poster, *A Phase 1 a/b Dose Escalation Study of the Mutation Agnostic BTK/FLT3 Inhibitor CG-806 in Patients with Relapsed or Refractory CLL/SLL or Non-Hodgkin's Lymphomas* reviewed luxeptinib data for fourteen patients (as of the cutoff date of November 2, 2020) with relapsed or refractory CLL, SLL or NHL in the first in-human Phase 1a/b, open-label, single arm, multicenter dose-escalation clinical study. Data from the ongoing trial demonstrated that luxeptinib was generally well-tolerated in patients treated at 150 mg, 300 mg, 450 mg, and 600 mg BID over multiple cycles, supporting continued dose escalation. At the ongoing 750 mg dose, luxeptinib achieved steady state plasma concentration greater than 2 micromolar at the end of Cycle 1. Luxeptinib treatment also led to modest reductions in tumor volume in patients with different B-cell malignancies. On December 6, 2020, Aptose also hosted a corporate event and clinical update, where the company's management highlighted some early clinical observations on safety, tolerability, pharmacokinetics, and activity from the Phase 1a/b study in B-cell malignancies as well as from the recently initiated Phase 1a/b study in AML.

APTO-253

Indication and Clinical Trials:

APTO-253, a small molecule inhibitor of MYC gene expression, is being evaluated in a Phase 1a/b clinical trial in patients with R/R AML and high-risk MDS. The multicenter, open-label, dose-escalation clinical trial is designed to assess the safety, tolerability, pharmacokinetics and pharmacodynamic responses and efficacy of APTO-253 as a single agent and determine the recommended Phase 2 dose. APTO-253 is being administered once weekly, over a 28-day cycle. The dose escalation stage of the study could potentially enroll up to 20 patients with R/R AML or high-risk MDS. The study is designed to then transition, as appropriate, to single-agent expansion cohorts in R/R AML and/or high-risk MDS.

As of the date of this report, we have multiple active sites recruiting patients in the dose escalation stage of the trial. As of the date of this report, we have completed enrollment and treatment of patients on the first, second, third, fourth, and fifth dose levels (20, 40, 66, 100, and 150 mg/m2, respectively). Under an FDA-approved accelerated titration protocol, only one patient was required at each of the first two dose levels, followed by three patients at each dose level thereafter. Aptose is currently enrolling patients in the sixth dose level (210 mg/m2) of APTO-253. During the second quarter of 2020, the FDA allowed an amendment for Aptose to initiate more aggressive dose escalations with APTO-253, provided the tolerability profile remains favorable. The first fivedosing cohorts have enrolled a mix of patients with AML and MDS. To date, we have observed reductions in MYC expression in peripheral blood mononuclear cells (PBMCs) from treated patients with AML and MDS, demonstrating MYC target engagement and mechanistic proof of concept.

Manufacturing:

We are continuing to manufacture additional drug substance and drug product for use in the ongoing trial.

We are exploring additional drug delivery methods for APTO-253 and plan to initiate additional non-clinical studies for solid tumor and hematologic cancer development. As preparing, submitting, and advancing applications for regulatory approval, developing drugs and drug product and clinical trials are sometimes complex, costly, and time-consuming processes, an estimate of the future costs is not reasonable at this time.

Preclinical and Clinical Updates:

Key presentations on APTO-253 at recent scientific forums are as follows:

- On April 17, 2018, at the 2018 Annual Meeting of the AACR, we presented preclinical data demonstrating that APTO-253 is a new addition to the repertoire of drugs that can exploit DNA BRCA1/2 deficiency, broadening the potential applicability of APTO-253 towards solid cancer indications.

- On June 4, 2018, we announced that preclinical data elucidating the mechanism of action of APTO-253 were published in two separate articles in the June 2018 issue (Volume 17, Number 6) of Molecular Cancer Therapeutics, a peer-reviewed journal of the AACR. The most important finding disclosed in the published articles is the ability of the APTO-253 small molecule to bind to and stabilize a G-quadruplex DNA motif found in the promoter regulatory region of the MYC oncogene and to inhibit expression of the MYC gene, thereby depleting the cells of the MYC oncoprotein and leading to cancer cell death. These findings make APTO-253 the only clinical stage molecule that can directly target the MYC gene and inhibit its expression.

- On April 1, 2019, at the 2019 Annual Meeting of the AACR, we presented in vitro studies that further define the mechanism of action of APTO-253. Researchers found that APTO-253 targets a G-quadruplex motif in the P1/P2 promoter region of the MYC gene and inhibits MYC gene expression to induce apoptosis, resulting in its ability to potently kill hematologic malignant cell lines and primary samples from AML and CLL patients. In this study, researchers performed long-term in vitro studies to determine if and how cells might develop resistance to APTO-253. MYC driven Raji cells required three years in increasing concentrations of APTO-253 in order to adopt multiple modifications and develop high level resistance to APTO-253. These modifications include up-regulation of the ABCG2 transporter, acquisition of a more stable MYC protein lacking the conserved core sequence of MYC Box III generated by deletion of an internal region of the MYC gene exon 2, and utilization of alternate P3 promoter not inhibited by G4 binding and stabilization. Importantly, these studies confirmed the MYC gene as a target of APTO-253.

- On December 6, 2020, we presented new clinical data in a virtual poster presentation at the 62nd ASH Annual Meeting. The poster, A Phase 1a/b Dose Escalation Study of the MYC Repressor APTO-253 in Patients with Relapsed or Refractory AML or Higher-risk MDS reviewed APTO-253 data for 10 patients with relapsed or refractory AML and MDS at 20 mg/m2, 40 mg/m2, 66 mg/m2 and 100 mg/m2 once weekly over multiple cycles. APTO-253 demonstrated MYC reduction in 5 out of 6 patients 24 hours after dosing C1D1 providing proof of concept that APTO-253 is a MYC repressor. APTO-253 was well tolerated with no dose-limiting toxicities or serious adverse events observed, supporting continued dose escalation.

LIQUIDITY AND CAPITAL RESOURCES

Aptose is an early stage development company and we currently do not earn any revenues from our drug candidates. 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.

Sources of liquidity:

The following table presents our cash and cash equivalents, investments and working capital as at March 31, 2021 and December 31, 2020.

(in thousands)	Balances at March 31, 2021	Balances at December 31, 2020
Cash and cash equivalents	$ 87,083	$ 117,393
Investments	24,999	5,000
Total	$ 112,082	$ 122,393
Working capital	$ 108,775	$ 118,264

Working capital represents primarily cash, cash equivalents, investments and other current assets less current liabilities.

We believe that our cash, cash equivalents and investments on hand at March 31, 2021 will be sufficient to finance our operations for at least 12 months from the issuance date of these financial statements. Our cash needs for the next twelve months include estimates of the number of patients and rate of enrollment of our clinical trials, the amount of drug product that we will require to support our clinical trials, and our general corporate overhead costs to support our operations, and our reliance on our manufacturers. We have based these estimates on assumptions and plans which may change and which could impact the magnitude and/or timing of operating expenses and our cash runway.

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

On July 20, 2020 and August 10, 2020, the Company completed a confidentially marketed public offering ("CMPO"), with Piper Sandler & Co. as the representative of the underwriters, through the issuance of, in the aggregate, 11,854,472 common shares for gross proceeds of $62.2 million (approximately $58.2 million net of share issue costs).

On May 5, 2020, the Company entered into an "At-The-Market" Facility equity distribution agreement with Piper Sandler & Co. and Canaccord Genuity LLC acting as co-agents (the "2020 ATM"). Under the terms of this facility, the Company may, from time to time, sell common shares having an aggregate offering value of up to $75 million through Piper Sandler and Canaccord Genuity on the Nasdaq Capital Market. As of the date of this report, the Company has not issued any shares under this 2020 ATM.

We do not expect that COVID-19 will have a significant impact on our liquidity and capital resources and we are not incurring significant additional costs to support our ongoing operations during this time. We have not entered into long term manufacturing contracts and should there be a delay in our trials we have flexibility to reduce future planned manufacturing campaigns.

We expect that we will need to raise additional capital or incur indebtedness to continue to fund our operations in the future. In December 2019, we filed a short form base shelf prospectus (the "Base Shelf") that allows us to distribute, upon the filing of prospectus supplements, up to $200,000,000 of common shares, warrants, or units comprising any combination of common shares and warrants. The Base Shelf was declared effective by the SEC on January 9, 2020 and expires on January 9, 2023.

Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our trial related to COVID-19, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If the necessary funds are not available, we may need to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

Cash flows:

The following table presents a summary of our cash flows for the three-month periods ended March 31, 2021 and 2020:

(in thousands)	For the Three Months Ended, March 31, 2021	March 31, 2020
Net cash provided by (used in):		
Operating activities	$ (10,376)	$ (8,111)
Investing activities	(20,012)	(12,427)
Financing activities	75	436
Effect of exchange rates changes on cash and cash equivalents	3	14
Net decrease in cash and cash equivalents	$ (30,310)	$ (20,088)

Cash used in operating activities:

Our cash used in operating activities for the three-month periods ended March 31, 2021 and 2020 was approximately $10.4 million and $8.1 million, respectively. Net cash used in operating activities was higher in the three-month period ended March 31, 2020 as compared with the three-month period ended March 31, 2020 resulting mostly from a higher net loss in the current period. See "Results of Operations". Our uses of cash for operating activities for both three-month periods consisted primarily of salaries and wages for our employees, facility and facility-related costs for our offices and laboratories, fees paid in connection with preclinical and clinical studies, drug manufacturing costs, laboratory supplies and materials, and professional fees.

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, and manufacturing, as well as operating expenses associated with supporting these activities, and potential milestone payments to our collaborators. 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.

Cash flow from investing activities:

Our cash used in investing activities for the three months ended March 31, 2021 was $20.0 million and consisted of net purchases of investments of approximately $20.0 million and property and equipment of $17 thousand. Our cash used in investing activities in the three-month period ended March 31, 2020 was $12.4 million and consisted of net purchases of investments of $12.4 million and property and equipment of $16 thousand.

The composition and mix of cash, cash equivalents and investments is based on our evaluation of conditions in financial markets and our near-term liquidity needs. We have exposure to credit risk, liquidity risk and market risk related to our investments. The Company manages credit risk associated with its cash and cash equivalents and investments by maintaining minimum standards of R1-low or A-low investments. The Company invests only in highly rated financial instruments which are capable of prompt liquidation. The Company manages its liquidity risk by continuously monitoring forecasts and actual cash flows. The Company is subject to interest rate risk on its cash and cash equivalents and investments. The Company does not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates relative to interest rates on the investments, owing to the relative short-term nature of the investments.

Cash flow from financing activities:

Our cash flow from financing activities for the three months ended March 31, 2021 consisted of proceeds of approximately $75 thousand from the exercise of stock options. Our cash flow from financing activities in the three-month period ended March 31, 2020 consisted of proceeds of approximately $436 thousand from the exercise of stock options.

At-The-Market Facilities

On May 5, 2020, the Company entered into an ATM equity distribution agreement with Piper Sandler & Co. and Canaccord Genuity LLC acting as co-agents. Under the terms of this facility, the Company may, from time to time, sell common shares having an aggregate offering value of up to $75 million through Piper Sandler and Canaccord Genuity on the Nasdaq Capital Market. As of March 31, 2021, the Company had not issued any shares under this ATM equity facility.

CONTRACTUAL OBLIGATIONS

There were no material changes to our contractual obligations and commitments described under Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, which can be found on EDGAR at www.sec.gov/edgar.shtml and on SEDAR at www.sedar.com.

RESULTS OF OPERATIONS

A summary of the results of operations for the three-month periods ended March 31, 2021 and 2020 is presented below:

(in thousands)	Three months ended March 31, 2021	2020
Revenues	$ —	$ —
Research and development expenses	8,228	5,934
General and administrative expenses	8,024	5,900
Total other income	25	308
Net loss	(16,227)	(11,526)
Other comprehensive gain/(loss)	-	-
Total comprehensive loss	(16,227)	(11,526)
Basic and diluted loss per common share	$ (0.18)	$ (0.15)

The net loss for the three-month period ended March 31, 2021 increased by $4.7 million to $16.2 million as compared with $11.5 million for the comparable period in 2020. Components of the net loss are presented below:

Research and Development

The research and development expenses for the three-month periods ended March 31, 2021 and 2020 were as follows:

(in thousands)	Three months ended March 31, 2021	2020
Program costs – luxeptinib	$ 3,971	$ 2,945
Program costs – APTO-253	1,090	879
Personnel expenses	1,788	1,303
Stock-based compensation	1,378	800
Depreciation of equipment	1	7
	8,228	5,934

Research and development expenses increased by $2.3 million to $8.2 million for the three-month period ended March 31, 2021 as compared with $5.9 million for the comparative period in 2020. Changes to the components of our research and development expenses presented in the table above are primarily as a result of the following events:

- Program costs for luxeptinib increased by approximately $1 million, mostly as a result of the luxeptinib AML trial, for which we received an IND allowance in June 2020, higher manufacturing costs, including costs to scale up manufacturing and research costs associated with optimizing the formulation, higher costs associated with the luxeptinib Phase 1a/b trial and the costs associated the luxeptinib AML trial.

- Program costs for APTO-253 increased by approximately $211 thousand, mostly as a result of higher manufacturing costs and higher clinical trial costs related to the APTO-253 Phase 1b trial.

- Personnel-related expenses increased by $485 thousand, mostly related to new positions hired to support our clinical trials and manufacturing activities.

- Stock-based compensation increased by approximately $578 thousand in the three months ended March 31, 2021, compared with the three months ended March 31, 2020, mostly related to higher compensation expense in the current period on options issued in the first quarter of 2021.

General and Administrative

The general and administrative expenses for the three-month periods ending March 31, 2021 and 2020 were as follows:

(in thousands)	Three months ended March 31, 2021	2020
General and administrative, excluding items below	$ 2,725	$ 2,265
Stock-based compensation	5,265	3,601
Depreciation of equipment	34	34
	$ 8,024	$ 5,900

General and administrative expenses for the three-month period ended March 31, 2021 were $8.0 million as compared with $5.9 million for the comparative period in 2020, an increase of approximately $2.1 million. The increase was primarily as a result of the following:

- General and administrative expenses, other than share-based compensation and depreciation of equipment, increased by approximately $460 thousand in the three months ended March 31, 2021, primarily as a result of higher personnel related costs, higher insurance costs and higher office administrative costs offset by lower consulting fees and lower travel expenses.

- Stock-based compensation increased by approximately $1.7 million in the three months ended March 31, 2021, compared with the three months ended March 30, 2020, mostly related to the modification of option agreements of one officer as part of a separation and release agreement. Vested options of 1,679,169 with exercise prices ranging from $1.03 to $7.44 were allowed to continue to be exercisable for an additional twelve-month period, and also 504,833 options that would have expired unvested, were allowed to continue to vest for a 12 month period. As there was no service requirement, the company recorded $945 thousand and $663 thousand additional compensation in the current period related to these modifications for the vested and unvested options, respectively.

Other Income

Other income consists of interest earned on investments and foreign exchange gains and losses. Other Income in the three-month period ended March 31, 2021 was $25 thousand, a decrease of $283 thousand compared to the three month period ended March 30, 2020 mostly as a result of lower yields on investments held during the three-month period ended March 31, 2021.

COVID-19 did not have a significant impact on our results of operations for the quarter ended March 31, 2021. We have not experienced and do not foresee material delays to the enrollment of patients or timelines for the luxeptinib Phase 1a/b trial due to the variety of clinical sites that we have actively recruited for this trial. Similarly, we do not expect our enrollment of the luxeptinib AML trial to be negatively impacted by COVID-19 as we plan to use a variety of clinical sites for this trial as well. APTO-253, which is administered intravenously, requires the need for hospital / clinical site resources to assist and monitor patients during each infusion and based on the current conditions caused by COVID-19, future enrollment of patients on this trial is likely to be negatively impacted. As of the date of this report, we have not experienced material delays in the manufacturing of luxeptinib or APTO-253 related to COVID-19. Should our manufacturers be required to shut down their facilities due to COVID-19 for an extended period of time, our trials may be negatively impacted.

OFF-BALANCE SHEET ARRANGEMENTS

As of March 31, 2021, we were not party to any off-balance sheet arrangements.

CRITICAL ACCOUNTING POLICIES

Critical Accounting Policies and Estimates

We periodically review our financial reporting and disclosure practices and accounting policies to ensure that they provide accurate and transparent information relative to the current economic and business environment. As part of this process, we have reviewed our selection, application and communication of critical accounting policies and financial disclosures. Management has discussed the development and selection of the critical accounting policies with the Audit Committee of the Board of Directors and the Audit Committee has reviewed the disclosure relating to critical accounting policies in this Management's Discussion and Analysis.

Significant accounting judgments and estimates

A "critical accounting policy" is one which is both important to the portrayal of our financial condition and results and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. For additional information, please see the discussion of our significant accounting policies in Note 2 to the Financial Statements included in our Annual Report for the fiscal year ended December 31, 2020 on Form 10-K filed with the United States Securities Exchange Commission (the "SEC") on March 23, 2021. There were no material changes to our critical accounting policies and estimates during the three months ended March 31, 2021.

We record expenses for research and development activities based on our estimates of services received and efforts expended pursuant to contracts with vendors that conduct research and development on our behalf. The financial terms vary from contract to contract and may result in uneven payment flows as compared with services performed or products delivered. As a result, we are required to estimate research and development expenses incurred during the period, which impacts the amount of accrued expenses and prepaid balances related to such costs as of each balance sheet date. We estimate the amount of work completed through discussions with internal personnel and external service providers as to the progress or stage of completion of the services. We make significant judgments and estimates in determining the accrued balance in each reporting period. As actual costs become known, we adjust our accrued estimates.

Although we do not expect our estimates to be materially different from amounts actually incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in us reporting amounts that are too high or too low in any particular period. To date, there have been no material differences between our estimates of such expenses and the amounts actually incurred.

Other important accounting policies and estimates made by management are the valuation of contingent liabilities, the valuation of tax accounts, and the assumptions used in determining the valuation of share-based compensation.

Management's assessment of our ability to continue as a going concern involves making a judgment, at a particular point in time, about inherently uncertain future outcomes and events or conditions. Please see the "Liquidity and Capital Resources" section in this Quarterly Report on Form 10-Q for a discussion of the factors considered by management in arriving at its assessment.

Updated share information

As of May 4, 2021, we had 88,943,243 common shares issued and outstanding. In addition, there were 14,217,801 common shares issuable upon the exercise of outstanding stock options and upon the vesting of restricted share units.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Report contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian securities law, which we collectively refer to as "forward-looking statements". Such forward-looking statements reflect our current beliefs and are based on information currently available to us. In some cases, forward-looking statements can be identified by terminology such as "may", "would", "could", "will", "should", "expect", "plan", "intend", "anticipate", "believe", "estimate", "predict", "potential", "continue" or the negative of these terms or other similar expressions concerning matters that are not historical facts.

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 lack of product revenues and net losses and a 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 need to raise substantial additional capital in the future and that we may be unable to raise such funds when needed and on acceptable terms;
- further equity financing, which may substantially dilute the interests of our existing shareholders;
- 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 substantially harm our business;
- our reliance on external contract research/manufacturing organizations for certain activities and 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;
- clinical studies are long, expensive and uncertain processes and the FDA, or other similar foreign regulatory agencies that we are required to report to, may ultimately not approve any of our product candidates;
- our ability to comply with applicable governmental regulations and standards;
- our inability to achieve our projected development goals in the time frames we announce and expect;
- difficulties in enrolling patients for clinical trials may lead to delays or cancellations of our clinical trials;
- our reliance on third-parties to conduct and monitor our preclinical studies;
- our ability to attract and retain key personnel, including key executives and scientists;
- any misconduct or improper activities by our employees;
- our exposure to exchange rate risk;
- our ability to commercialize our business attributed to negative results from clinical trials;
- the marketplace may not accept our products or product candidates due to the intense competition and technological change in the biotechnical and pharmaceuticals, and we may not be able to compete successfully against other companies in our industries and achieve profitability;
- our ability to obtain and maintain patent protection;

- our ability to afford substantial costs incurred with defending our intellectual property;
- our ability to protect our intellectual property rights and not infringe on the intellectual property rights of others;
- our business is subject to potential product liability and other claims;
- potential exposure to legal actions and potential need to take action against other entities;
- commercialization limitations imposed by intellectual property rights owned or controlled by third parties;
- our ability to maintain adequate insurance at acceptable costs;
- our ability to find and enter into agreements with potential partners;
- extensive government regulation;
- data security incidents and privacy breaches could result in increased costs and reputational harm;
- our share price has been and is likely to continue to be volatile;
- future sales of our Common Shares by us or by our existing shareholders could cause our share price to drop;
- changing global market and financial conditions;
- changes in an active trading market in our Common Shares;
- difficulties by non-Canadian investors to obtain and enforce judgments against us because of our Canadian incorporation and presence;
- potential adverse U.S. federal tax consequences for U.S. shareholders because we are a "passive foreign investment company";
- our "smaller reporting company" status;
- any failures to maintain an effective system of internal controls may result in material misstatements of our financial statements, or cause us to fail to meet our reporting obligations or fail to prevent fraud;
- our broad discretion in how we use the proceeds of the sale of Common Shares; and
- our ability to expand our business through the acquisition of companies or businesses.

More detailed information about risk factors and their underlying assumptions are included in our Annual Report on Form 10-K for the year ended December 31, 2020, under Item 1A – Risk Factors. Except as required under applicable securities legislation, we undertake no obligation to publicly update or revise forward-looking statements, whether as a result of new information, future events or otherwise.

ITEM 3 – QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

Under SEC rules and regulations, as a smaller reporting company, we are not required to provide this information.

ITEM 4 – CONTROLS AND PROCEDURES

As of the end of our fiscal quarter ended March 31, 2021, evaluation of the effectiveness of our "disclosure controls and procedures" (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the United States Exchange Act of 1934, as amended (the "Exchange Act")), was carried out by our management, with the participation of our principal executive officer and principal financial officer. Based upon that evaluation, our principal executive officer and principal financial officer have concluded that as of the end of our fiscal quarter ended March 31, 2021, our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and (ii) accumulated and communicated to our management, including our principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure.

It should be noted that while our principal executive officer and principal financial officer believe that our disclosure controls and procedures provide a reasonable level of assurance that they are effective, they do not expect that our disclosure controls and procedures or internal control over financial reporting will prevent all errors or fraud. A control system, no matter how well conceived or operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There were no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) during our fiscal quarter ended March 31, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

ITEM 1 – LEGAL PROCEEDINGS

We are not involved in any material active legal actions. However, from time to time, we may be subject to various pending or threatened legal actions and proceedings, including those that arise in the ordinary course of our business. Such matters are subject to many uncertainties and to outcomes that are not predictable with assurance and that may not be known for extended periods of time.

ITEM 1A – RISK FACTORS

For information regarding factors that could affect Aptose's results of operations, financial condition and liquidity, see the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2020, under Item 1A – Risk Factors. There have been no material changes to the risk factors disclosed under Item 1A – Risk Factors of the Annual Report.

ITEM 5 – OTHER INFORMATION

On March 16, 2021, we announced the appointment of two key members to our management team to support our expanding clinical Chemistry, Manufacture and Control ("CMC") and regulatory functions: George P. Melko, Pharm.D., joined our company as Vice President, Regulatory Affairs; and Robert B. Killion Jr., Ph.D. was named Vice President, CMC, as previously disclosed on Form 8-K furnished to the SEC on March 16, 2021.

Effective March 26, 2021, Gregory Chow, our Executive Vice President and Chief Financial Officer, resigned to pursue an opportunity at a private biopharma company. Until we announce a permanent replacement for Mr. Chow, Dr. William Rice, our Chief Executive Officer, will serve as Chief Accounting Officer, and Dr. Jotin Marango, our Chief Business Officer, will assume Chief Financial Officer duties.

Effective March 26, 2021, we and Mr. Chow entered into a consulting agreement pursuant to which Mr. Chow will provide to us certain accounting-related functions and/or those services customarily associated with an accountant, as well as (i) accounting treatment and technical advice, (ii) capital markets advisory services and (iii) investment banking introductions to us until March 26, 2022.

Effective April 1, 2021, Yuying Jin, PhD, was appointed as Vice President, Biostatistics. Dr. Jin joined the company in March 2019 and previously held the position of Executive Director, Biostatistics.

ITEM 6 – EXHIBITS

Exhibit Number	Description of Document
10.1*	Consulting Agreement dated March 26, 2021 between Aptose Biosciences Inc. and Gregory K. Chow
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

101**	The following consolidated financial statements from the Aptose Biosciences Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2021, formatted in Extensible Business Reporting Language (XBRL): (i) statements of operations and comprehensive loss, (ii) balance sheets, (iii) statements of changes of shareholders' equity, (iv) statements of cash flows, and (v) the notes to the financial statements.
104*	Cover Page Interactive Data File (formatted as XBRL and contained in Exhibit 101)
*	Filed herewith.
**	In accordance with Rule 406T of Regulation S-T, the XBRL related information in Exhibit 101 to this Quarterly Report on Form 10-Q is deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act, is deemed not filed for purposes of Section 18 of the Exchange Act, and otherwise is not subject to liability under these sections.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on the 4th day of May 2021.

APTOSE BIOSCIENCES INC.

By: /s/ Jotin Marango
Jotin Marango
Senior Vice President,
Chief Financial Officer
and Duly Authorized Officer

APTOSE BIOSCIENCES INC.

CONSULTING AGREEMENT

This Consulting Agreement ("**Agreement**") is entered into as of March 26, 2021 (the "**Effective Date**") by and between Aptose Biosciences Inc. (the "**Company**") and the individual or entity named in the signature page hereto ("**Consultant**"). The Company desires to retain Consultant as an independent contractor to perform consulting services for the Company, and Consultant is willing to perform such services, on the terms described below. In consideration of the mutual promises contained herein, the parties agree as follows:

1. *Services and Compensation*. Consultant agrees to perform for the Company the services described in Exhibit A (the "**Services**"), and the Company agrees to pay Consultant the compensation described in Exhibit A in exchange for Consultant's performance of the Services.

2. *Confidentiality*.

A. *Definition*. "**Confidential Information**" means any non-public information that relates to the actual or anticipated business or research and development of the Company, including, but not limited to, the Company's technical data and trade secrets. Specifically, Confidential Information includes, but is not limited to, business plans, research, product plans and other non-public information regarding Company's products, services, and markets, customer lists and customers (including, but not limited to, those customers of the Company on whom Consultant may call or with whom Consultant may become acquainted during the term of this Agreement), software, developments, inventions, processes, formulas, technology, designs, drawing, engineering, specifications, hardware configuration information, marketing, prices, finances or other business information; provided, however, Confidential Information does not include information that (i) is known to Consultant at the time of disclosure to Consultant by the Company as evidenced by written records of Consultant, (ii) has become publicly known and made generally available through no wrongful act of Consultant, (iii) has been rightfully received by Consultant from a third party who is authorized to make such disclosure, or (iv) is independently developed by Consultant without any use of the Confidential Information as evidenced by written records of Consultant.

B. *Nonuse and Nondisclosure*. Consultant will not, during or subsequent to the term of this Agreement, (i) use the Confidential Information for any purpose whatsoever other than the performance of the Services on behalf of the Company or (ii) disclose the Confidential Information to any third party. Consultant agrees that all Confidential Information will remain the sole property of the Company. Consultant also agrees to take all reasonable precautions to prevent any unauthorized disclosure of such Confidential Information.

C. *Former Client Confidential Information*. Consultant agrees that Consultant will not, during the term of this Agreement, improperly use or disclose any proprietary information or trade secrets of any former or current employer or client of Consultant or other person or entity with which Consultant has an agreement or duty to keep in confidence such information acquired by Consultant, if any. Consultant also agrees that Consultant will not bring onto the Company's premises any unpublished document, trade secrets, or proprietary information belonging to any such employer, person or entity unless consented to in writing by such employer, person or entity.

D. *Third Party Confidential Information*. Consultant acknowledges that the Company has received and in the future may receive from third parties confidential or proprietary information subject to a duty on the Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. Consultant agrees that, during the term of this Agreement and thereafter, Consultant owes the Company and such third parties a duty to hold all such confidential or proprietary information in the strictest confidence and not to disclose it to any person, firm or corporation or to use it except as necessary in carrying out the Services for the Company consistent with the Company's agreement with such third party.

E. *Return of Materials*. Upon the termination of this Agreement, or upon Company's earlier request, Consultant will deliver to the Company all of the Company's property, including but not limited to all electronically stored information and passwords to access such property, or Confidential Information that Consultant may have in Consultant's possession or control.

F. *Immunity From Liability for Certain Confidential Disclosures.* Consultant acknowledges, agrees, and understands that (i) nothing in this Agreement prohibits Consultant from reporting to any governmental authority or attorney information concerning suspected violations of law or regulation, provided that Consultant does so consistent with 18 U.S.C. 1833, and (ii) Consultant may disclose trade secret information to a government official or to an attorney and use it in certain court proceedings without fear of prosecution or liability, provided that Consultant does so consistent with 18 U.S.C. 1833. In addition, nothing in this Agreement prohibits or restricts Consultant (or Consultant's attorney) from filing a charge or complaint with the Securities and Exchange Commission, the Financial Industry Regulatory Authority, any other securities regulatory agency or authority, the Occupational Safety and Health Administration, or any other federal or state regulatory authority ("**Government Agencies**"). Consultant further understands that this Agreement does not limit the Consultant's ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agency without notice to the Company. This Agreement does not limit the Consultant's right to receive an award for information provided to any Government Agencies.

3. *Ownership.*

A. *Assignment*. Consultant agrees that all copyrightable material, notes, records, drawings, designs, inventions, improvements, developments, discoveries and trade secrets conceived, discovered, developed or reduced to practice by Consultant during the term of this Agreement, solely or in collaboration with others, that relate in any manner to any Services to be performed by Consultant under this Agreement (collectively, "**Inventions**"), are the sole property of the Company as between Consultant and Company. All Inventions that Consultant conceives, reduces to practice, develops or has developed (in whole or in part, either alone or jointly with others) shall be the sole property of the Company and its assigns to the maximum extent permitted by law (and to the fullest extent permitted by law shall be deemed "works made for hire"). Consultant also agrees to irrevocably assign (or cause to be irrevocably assigned) and hereby irrevocably assigns to the Company all right, title and interest in all Inventions and any copyrights, patents, trademarks, trade secrets, mask work rights, moral rights and intellectual property and other rights ("**Intellectual Property Rights**") relating to all Inventions.

B. *Further Assurances*. Consultant shall take steps that may be necessary to assist Company, or its designee, at the Company's expense, in every proper way to complete the transfer of and secure the Company's rights in the Inventions and Intellectual Property Rights in any and all countries, including by making the disclosure to the Company of all pertinent information and data with respect to all Inventions, and executing all applications, specifications, oaths, assignments and all other instruments that the Company may deem necessary in order to apply for and obtain such rights and in order to assign and convey to the Company, its successors, assigns and nominees the sole and exclusive right, title and interest in and to all Inventions, and any copyrights, patents, mask work rights or other intellectual property rights relating to all Inventions. Consultant also agrees that Consultant's obligation to execute or cause to be executed any such instrument or papers shall continue after the termination of this Agreement.

C. *Pre-Existing Materials*. Subject to **Section 3A**, Consultant agrees that if, in the course of performing the Services, Consultant incorporates into any Invention developed under this Agreement any pre-existing invention, improvement, development, concept, discovery or other proprietary information owned by Consultant or in which Consultant has an interest, (i) Consultant will inform Company, in writing before incorporating such invention, improvement, development, concept, discovery or other proprietary information into any Invention, and (ii) the Company is hereby granted a nonexclusive, royalty-free, perpetual, irrevocable, worldwide license to make, have made, modify, use and sell such item as part of or in connection with such Invention. Consultant will not incorporate knowingly any invention, improvement, development, concept, discovery or other proprietary information owned by any third party into any Invention without Company's prior written permission.

D. *Attorney-in-Fact*. Consultant agrees that, if the Company is unable because of Consultant's unavailability, dissolution, mental or physical incapacity, or for any other reason, to secure Consultant's signature for the purpose of applying for or pursuing any application for any United States or foreign patents or mask work or copyright registrations covering the Inventions assigned to the Company in **Section 3A**, then Consultant hereby irrevocably designates and appoints the Company and its duly authorized officers and agents as Consultant's agent and attorney-in-fact, to act for and on Consultant's behalf to execute and file any such applications and to do all other lawfully permitted acts to further the prosecution and issuance of patents, copyright and mask work registrations with the same legal force and effect as if executed by Consultant.

4. *Conflicting Obligations.*

A. *Conflicts*. Consultant certifies that Consultant has no outstanding agreement or obligation that is in conflict with any of the provisions of this Agreement or that would preclude Consultant from complying with the provisions of this Agreement. Consultant will not enter into any such conflicting agreement during the term of this Agreement. Consultant's violation of this **Section 4A** will be considered a material breach under **Section 6.B**.

B. *Third-Party Services.* Notwithstanding the foregoing, the Company hereby acknowledges and agrees that Consultant has taken a full-time employment position with another company (the "Third Party Company"), and that Consultant's services for such Third Party Company shall in no way conflict with Consultant's duties hereunder, nor shall Consultant or the Third Party Company be liable hereunder with respect to Consultant's services for the Third Party Company. The Third Party Company is an intended third-party beneficiary of this **Section 4.B**. If any work requested by the Company to be performed under this Agreement may reasonably relate to any ongoing internal research program of, or conflict with any obligations to, the Third Party Company, then Consultant shall so notify the Company's Chief Executive Officer and in such case, Consultant shall not be required to perform such work. Any such notice by Consultant shall be summary in nature and shall not include any confidential or proprietary information of the Third Party Company. Consultant certifies that all work performed under this Agreement during the term of this Agreement will be performed on Consultant's own time outside of Consultant's current employment with the Third Party Company and without using any of Third Party Company's equipment, supplies, facilities or confidential information. Consultant agrees that, during the term of this Agreement, Consultant will use his commercially reasonable efforts to segregate the Services performed under this Agreement from Consultant's work done for the Third Party Company.

5. *Reports*. Consultant also agrees that Consultant will, from time to time during the term of this Agreement or any extension thereof, keep the Company advised as to Consultant's progress in performing the Services under this Agreement. Consultant further agrees that Consultant will, as requested by the Company, prepare written reports with respect to such progress. The Company and Consultant agree that the time required to prepare such written reports will be considered time devoted to the performance of the Services.

6. *Term and Termination.*

A. *Term*. The term of this Agreement will begin on the Effective Date and will continue until the earlier of (i) final completion of the Services, on March 26, 2022, or (ii) termination as provided in Section 6B.

B. *Termination*. Either party may terminate this Agreement upon 14 days' prior written notice of such termination pursuant to **Section 11F** of this Agreement. In addition, the Company may terminate this Agreement immediately and without prior notice if Consultant refuses to or is unable to perform the Services or is in breach of any material provision of this Agreement. Consultant may terminate this Agreement immediately and without prior notice if the Company is in breach of any material provision of this Agreement, including but not limited to, providing payment and/or consideration in the agreed-upon manner.

C. *Survival*. Upon termination of this Agreement, all rights and duties of the Company and Consultant toward each other shall cease except:

(i) The Company will pay, within 30 days after the effective date of termination, all amounts owing to Consultant for Services completed and accepted by the Company prior to the termination date and related expenses, if any, submitted in accordance with the Company's policies and in accordance with the provisions of **Section 1** of this Agreement; and

(ii) **Section 2** (Confidentiality), **Section 3** (Ownership), **Section 4** (Conflicting Obligations), **Section 7** (Independent Contractor; Benefits), **Section 8** (Indemnification), **Section 9** (Nonsolicitation) and **Section 10** (Arbitration and Equitable Relief) will survive termination of this Agreement.

7. *Independent Contractor; Benefits.*

A. *Independent Contractor.* It is the express intention of the Company and Consultant that Consultant perform the Services as an independent contractor to the Company. Consultant represents that Consultant has the qualifications and ability to perform the Services in a professional manner, without the advice, control, or supervision of Company. Consultant shall be solely responsible for the professional performance of the Services, and shall receive no assistance, direction, or control from Company. Consultant shall have sole discretion and control of Consultant's services and the manner in which performed. Nothing in this Agreement shall in any way be construed to constitute Consultant as an agent, employee or representative of the Company. Without limiting the generality of the foregoing, Consultant is not authorized to bind the Company to any liability or obligation or to represent that Consultant has any such authority. Consultant agrees to furnish (or reimburse the Company for) all tools and materials necessary to accomplish this Agreement and shall incur all expenses associated with performance, except as expressly provided in Exhibit A. Consultant acknowledges and agrees that Consultant is obligated to report as income all compensation received by Consultant pursuant to this Agreement. Consultant agrees to and acknowledges the obligation to pay all self-employment and other taxes on such income.

B. *Benefits*. The Company and Consultant agree that Consultant will receive no Company-sponsored benefits from the Company. If Consultant is reclassified by a state or federal agency or court as Company's employee, Consultant will become a reclassified employee and will receive no benefits from the Company, except those mandated by state or federal law, even if by the terms of the Company's benefit plans or programs of the Company in effect at the time of such reclassification, Consultant would otherwise be eligible for such benefits.

8. *Indemnification*. Consultant agrees to indemnify and hold harmless the Company and its directors, officers and employees from and against all taxes, losses, damages, liabilities, costs and expenses, including attorneys' fees and other legal expenses, arising directly or indirectly from or in connection with (A) any negligent, reckless or intentionally wrongful act of Consultant or Consultant's assistants, employees or agents, (B) any breach by the Consultant or Consultant's assistants, employees or agents of any of the covenants contained in this Agreement, (C) any failure of Consultant to perform the Services in accordance with all applicable laws, rules and regulations, or (D) any violation or claimed violation of a third party's rights resulting in whole or in part from the Company's use of the work product of Consultant under this Agreement. This Agreement does not extinguish any other rights that Consultant has as a former employee and officer to benefit from the Company's directors and officers liability insurance or the Company's agreement to indemnify, defend and hold Consultant harmless for any costs, fees or liability arising out of a claim, demand, suit, action, damages, loss, expense, charge or cause of action filed against by third parties arising out of Consultant's former employment at Aptose to the extent such costs, fees or liability are not covered by any applicable insurance policy held by Aptose, as agreed upon in the Confidential Separation and Release Agreement.

9. *Nonsolicitation*. From the date of this Agreement until 12 months after the termination of this Agreement (the "**Restricted Period**"), Consultant will not, without the Company's prior written consent, directly or indirectly, solicit or encourage any employee or contractor of the Company or its affiliates to terminate employment with, or cease providing services to, the Company or its affiliates. During the Restricted Period, Consultant will not, whether for Consultant's own account or for the account of any other person, firm, corporation or other business organization, intentionally interfere with any person who is or during the period of Consultant's engagement by the Company was a partner, supplier, customer or client of the Company or its affiliates.

10. *Arbitration and Equitable Relief*.

A. *Arbitration*. IN CONSIDERATION OF CONSULTANT'S RIGHTS UNDER THIS AGREEMENT, THE COMPANY'S PROMISE TO ARBITRATE DISPUTES UNDER THIS AGREEMENT, AND THE RECEIPT OF COMPENSATION PAID TO CONSULTANT BY THE COMPANY, AT PRESENT AND IN THE FUTURE, CONSULTANT HEREBY WAIVES CONSULTANT'S RIGHT TO A TRIAL BEFORE A JUDGE OR JURY AND AGREES THAT ANY AND ALL CONTROVERSIES, CLAIMS, OR DISPUTES WITH ANYONE (INCLUDING THE COMPANY AND ANY EMPLOYEE, OFFICER, DIRECTOR, SHAREHOLDER OR BENEFIT PLAN OF THE COMPANY IN ITS CAPACITY AS SUCH OR OTHERWISE), WHETHER BROUGHT ON AN INDIVIDUAL, GROUP, OR CLASS BASIS, ARISING OUT OF, RELATING TO, OR RESULTING FROM CONSULTANT'S PERFORMANCE OF THE SERVICES UNDER THIS AGREEMENT OR THE TERMINATION OF THIS AGREEMENT, INCLUDING ANY BREACH OF THIS AGREEMENT, SHALL BE SUBJECT TO BINDING ARBITRATION UNDER THE ARBITRATION RULES SET FORTH IN CALIFORNIA CODE OF CIVIL PROCEDURE SECTION 1280 THROUGH 1294.2, INCLUDING SECTION 1283.05 (THE "**RULES**") AND PURSUANT TO CALIFORNIA LAW.

B. *Procedure*. CONSULTANT AGREES THAT ANY ARBITRATION WILL BE ADMINISTERED BY THE AMERICAN ARBITRATION ASSOCIATION ("**AAA**"), AND THAT THE NEUTRAL ARBITRATOR WILL BE SELECTED IN A MANNER CONSISTENT WITH AAA'S NATIONAL RULES FOR THE RESOLUTION OF EMPLOYMENT DISPUTES. CONSULTANT AGREES THAT THE ARBITRATOR SHALL HAVE THE POWER TO DECIDE ANY MOTIONS BROUGHT BY ANY PARTY TO THE ARBITRATION, INCLUDING MOTIONS FOR SUMMARY JUDGMENT AND/OR ADJUDICATION, MOTIONS TO DISMISS AND DEMURRERS, AND MOTIONS FOR CLASS CERTIFICATION, PRIOR TO ANY ARBITRATION HEARING. CONSULTANT ALSO AGREES THAT THE ARBITRATOR SHALL HAVE THE POWER TO AWARD ANY REMEDIES AVAILABLE UNDER APPLICABLE LAW, AND THAT THE ARBITRATOR SHALL AWARD ATTORNEYS' FEES AND COSTS TO THE PREVAILING PARTY EXCEPT AS PROHIBITED BY LAW. CONSULTANT UNDERSTANDS THAT THE COMPANY WILL PAY FOR ANY ADMINISTRATIVE OR HEARING FEES CHARGED BY THE ARBITRATOR OR AAA, EXCEPT THAT CONSULTANT SHALL PAY THE FIRST $125.00 OF ANY FILING FEES ASSOCIATED WITH ANY ARBITRATION CONSULTANT INITIATES. CONSULTANT AGREES THAT THE ARBITRATOR SHALL ADMINISTER AND CONDUCT ANY ARBITRATION IN A MANNER CONSISTENT WITH THE RULES AND THAT TO THE EXTENT THAT THE AAA'S NATIONAL RULES FOR THE RESOLUTION OF EMPLOYMENT DISPUTES CONFLICT WITH THE RULES, THE RULES SHALL TAKE PRECEDENCE. CONSULTANT AGREES THAT THE DECISION OF THE ARBITRATOR SHALL BE IN WRITING.

C. *Remedy.* EXCEPT AS PROVIDED BY THE RULES, LAW, AND THIS AGREEMENT, ARBITRATION SHALL BE THE SOLE, EXCLUSIVE AND FINAL REMEDY FOR ANY DISPUTE BETWEEN THE COMPANY AND CONSULTANT. ACCORDINGLY, EXCEPT AS PROVIDED FOR BY THE RULES, LAW, AND THIS AGREEMENT, NEITHER THE COMPANY NOR CONSULTANT WILL BE PERMITTED TO PURSUE COURT ACTION REGARDING CLAIMS THAT ARE SUBJECT TO ARBITRATION. NOTWITHSTANDING, THE ARBITRATOR WILL NOT HAVE THE AUTHORITY TO DISREGARD OR REFUSE TO ENFORCE ANY LAWFUL COMPANY POLICY, AND THE ARBITRATOR SHALL NOT ORDER OR REQUIRE THE COMPANY TO ADOPT A POLICY NOT OTHERWISE REQUIRED BY LAW.

D. *Availability of Injunctive Relief.* CONSULTANT AGREES THAT EITHER THE COMPANY OR CONSULTANT MAY PETITION A COURT FOR PROVISIONAL RELIEF, INCLUDING INJUNCTIVE RELIEF, AS PERMITTED BY THE RULES, INCLUDING, BUT NOT LIMITED TO, WHERE EITHER THE COMPANY OR CONSULTANT ALLEGES OR CLAIMS A VIOLATION OF THIS AGREEMENT BETWEEN CONSULTANT AND THE COMPANY OR ANY OTHER AGREEMENT REGARDING TRADE SECRETS, CONFIDENTIAL INFORMATION, NONSOLICITATION OR LABOR CODE §2870. CONSULTANT UNDERSTANDS THAT ANY BREACH OR THREATENED BREACH OF SUCH AN AGREEMENT (INCLUDING THIS AGREEMENT) WILL CAUSE IRREPARABLE INJURY AND THAT MONEY DAMAGES WILL NOT PROVIDE AN ADEQUATE REMEDY THEREFOR, AND BOTH CONSULTANT AND THE COMPANY HEREBY CONSENT TO THE ISSUANCE OF AN INJUNCTION.

E. *Administrative Relief.* CONSULTANT UNDERSTANDS THAT THIS AGREEMENT DOES NOT PROHIBIT CONSULTANT FROM PURSUING AN ADMINISTRATIVE CLAIM WITH A LOCAL, STATE OR FEDERAL ADMINISTRATIVE BODY SUCH AS THE DEPARTMENT OF FAIR EMPLOYMENT AND HOUSING, THE EQUAL EMPLOYMENT OPPORTUNITY COMMISSION OR THE WORKERS' COMPENSATION BOARD. THIS AGREEMENT DOES, HOWEVER, PRECLUDE CONSULTANT FROM PURSUING COURT ACTION REGARDING ANY SUCH CLAIM.

11. *Miscellaneous.*

A. *Voluntary Nature of Agreement.* Consultant acknowledges and agrees that Consultant is executing this Agreement voluntarily and without any duress or undue influence by the Company or anyone else. Consultant further acknowledges and agrees that Consultant has carefully read this Agreement and that Consultant has asked any questions needed for Consultant to understand the terms, consequences and binding effect of this Agreement and fully understands it, including that **Consultant is waiving the right to a jury trial**. Finally, Consultant agrees that Consultant has been provided an opportunity to seek the advice of an attorney of its choice before signing this Agreement.

B. *Governing Law*. This Agreement shall be governed by the laws of California without regard to California's conflicts of law rules.

C. *Assignability*. Except as otherwise provided in this Agreement, Consultant may not sell, assign or delegate any rights or obligations under this Agreement.

D. *Entire Agreement*. This Agreement constitutes the entire agreement between the parties with respect to the subject matter of this Agreement and supersedes all prior written and oral agreements between the parties regarding the subject matter of this Agreement. For avoidance of doubt, this Agreement covers all prior consulting services provided by Consultant to the Company.

E. *Headings*. Headings are used in this Agreement for reference only and shall not be considered when interpreting this Agreement.

F. *Notices*. Any notice or other communication required or permitted by this Agreement to be given to a party shall be in writing and shall be deemed given or delivered (i) when delivered personally or by commercial messenger or courier service, (ii) three business days after mailing if mailed by U.S. registered or certified mail (return receipt requested), or (iii) when sent by facsimile or e-mail if sent during normal business hours and on the next business day if sent after normal business hours, in each case with confirmation of transmission by the transmitting equipment, to the party at the party's contact information set forth on the signature page to this Agreement or at such other address as the party may have previously specified by like notice.

G. *Attorneys' Fees.* In any arbitration or court action at law or equity that is brought by one of the parties to this Agreement to enforce or interpret the provisions of this Agreement, the prevailing party will be entitled to reasonable attorneys' fees, in addition to any other relief to which that party may be entitled.

H. *Severability.* If any provision of this Agreement is found to be illegal or unenforceable, then it shall be severed, and the other provisions shall remain effective and enforceable to the greatest extent permitted by law.

I. *Signatures.* This Agreement may be signed in two counterparts, each of which shall be deemed an original, with the same force and effectiveness as though executed in a single document. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

(signature pages follow)

IN WITNESS WHEREOF, the parties hereto have executed this Consulting Agreement as of the Effective Date.

CONSULTANT

Sign: _____

Name: Gregory K. Chow

Address for Notice:

E-mail: greg.chow7@gmail.com

APTOSE BIOSCIENCES INC.

Sign: _____

Name: _____
Title: _____

Address for Notice:

12770 High Bluff Drive, San Diego, Suite 120
California, 92130

E-mail: _____

EXHIBIT A

Services and Compensation

1. *Contact*. Consultant's principal Company contact shall be William Rice.

2. *Services*. The Services shall include, but shall not be limited to, accounting-related functions and/or those services customarily associated with an accountant, and/or (1) Accounting Treatment/Technical Advice, (2) Capital Markets Advisory, and (3) Investment Banking Introductions.

3. *Performance of Consulting*. The Consultant shall consult with Company on an as-needed basis from time to time, but not to exceed two (2) hours per week. The Services shall be required at such times and such places that shall not result in unreasonable inconvenience to the Consultant, recognizing that the Consultant has other commitments that he may have to accord priority over the performance of the Services.

4. *Compensation*

A. The Company will pay Consultant $250 per hour, except that Consultant will not be paid for more than two (2) hours per week, unless otherwise agreed to by Consultant and Company.

B. The Company will reimburse Consultant for all reasonable expenses incurred by Consultant in performing the Services pursuant to this Agreement, if Consultant receives written consent from an authorized agent of the Company prior to incurring such expenses and submits receipts for such expenses to the Company in accordance with Company policy.

C. Within 5 business days of the end of each month, Consultant shall submit to the Company a written invoice for Services and expenses, and such statement shall be subject to the approval of the contact person listed above or other designated agent of the Company. Payment terms are net 30 days.

CONSULTANT

Sign: _____

Name: Gregory K. Chow

APTOSE BIOSCIENCES INC.

Sign: _____

Name: _____
Title: _____

Exhibit 31.1

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, William G. Rice, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aptose Biosciences Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting 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 generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's fourth fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2021

/s/ William G. Rice
Name: William G. Rice, Ph.D.
Title: President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jotin Marango, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aptose Biosciences Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting 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 generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's fourth fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2021

/s/ Jotin Marango
Name: Jotin Marango, M.D., Ph.D.
Title: Senior Vice President and Chief Financial Officer

Exhibit 32.1

Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, William G. Rice, the President and Chief Executive Officer of Aptose Biosciences Inc. (the "Company"), hereby certify that, to my knowledge:

1. The Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 (the "Report") of the Company fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 4, 2021

/s/ William G. Rice
Name: William G. Rice, Ph.D.
Title: President and Chief Executive Officer

Exhibit 32.2

Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Jotin Marango, the Senior Vice President and Chief Financial Officer of Aptose Biosciences Inc. (the "Company"), hereby certify that, to my knowledge:

1. The Quarterly Report on Form 10-Q for the quarter ended March 31, 2021 (the "Report") of the Company fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 4, 2021

/s/ Jotin Marango
Name: Jotin Marango, M.D., Ph.D.
Title: Senior Vice President and Chief Financial Officer