

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

FORM 10-K/A
(AMENDMENT NO. 1)

(Mark one)

ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018.

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-3200

APTOSE BIOSCIENCES INC.

(Exact name of registrant as specified in its charter)

Canada
(State or other jurisdiction of incorporation or organization)

98-1136802
(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:
Common Shares, without par value The Nasdaq Stock Market

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES NO

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 (§229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10 K or any amendment to this Form 10 K.

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 definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

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 registrant is a shell company (as defined in Rule 12b 2 of the Act). YES NO

The aggregate market value of the voting stock and nonvoting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked prices of such common equity, as of June 30, 2018 was \$134,370,583.00.

As of March 12, 2019, the registrant had 41,499,112 shares of common stock outstanding.

EXPLANATORY NOTE

This Amendment No. 1 to Form 10-K (this "Amendment No. 1") amends the Annual Report on Form 10-K of Aptose Biosciences Inc. ("Aptose", "we", "our", "us", or the "Company") for the year ended December 31, 2018, which was originally filed with the U.S. Securities and Exchange Commission (the "SEC") on March 12, 2019 (the "Original 10-K"). This Amendment No. 1 is being filed to include the responses to the items required by Part III that we previously intended to incorporate by reference to the proxy statement for our 2019 annual meeting of stockholders in reliance on General Instruction G(3) to Form 10-K. In addition, as required by Rule 12b-15 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), new certifications by the Company's principal executive officer and principal financial officer are filed as exhibits to this Amendment No. 1 under Item 15 of Part IV, but because no financial statements are contained within this Amendment No. 1, we are not including new certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Except as specifically provided otherwise herein, this Amendment No. 1 does not reflect events occurring after March 12, 2019, the date of the filing of our Original 10-K, or modify or update those disclosures that may have been affected by subsequent events. Accordingly, this Amendment No. 1 should be read in conjunction with the Original 10-K.

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PART III.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Directors

The following table sets out each incumbent director of the Company, all of whom are nominated for election at the next annual meeting of stockholders. The table also includes each director's name and place of residence, all major positions and offices with the Company now held by them, the period during which they have served as directors of the Company, and their principal occupation currently and for the preceding five years.

Director	Experience and Qualifications
Carol G. Ashe ⁽²⁾⁽³⁾ Pennsylvania, United States Director Since August 2018	<p>Ms. Ashe, age, 61, has been the Chief Business Officer at the New York Genome Center, an independent, non-profit academic research institution focused on translating genomic research into the development of new therapies for human disease, since 2014. Previously, she served as Vice President of Corporate Development for Endo's branded, generic and platform drug delivery pharmaceutical business units from 2011 to 2013; a Partner at SR One, the corporate venture capital fund of GlaxoSmithKline, from 2008 to 2010; and head of GSK's US Corporate Legal Group supporting US-based mergers, acquisitions and equity investments from 2007 to 2008. Prior to that, Ms. Ashe led GSK's global Business Development Transactions Legal Team supporting both the pharmaceutical and consumer healthcare business units from 1995 to 2007. Ms. Ashe received her BS degree in Biology from Pennsylvania State University, her law degree from Villanova University School of Law and is a registered patent attorney.</p> <p>Ms. Ashe makes valuable contributions to the Board based on over 25 years of experience in the biotechnology industry as legal counsel and in business development.</p>
Dr. Denis Burger ⁽¹⁾⁽²⁾⁽⁴⁾ Oregon, United States Director Since 2007	<p>Dr. Burger, age 75, co-founded Trinity Biotech, PLC, a diagnostic biotechnology company based in Dublin, Ireland, in 1992, served as Chairman from 1992 to 1995, and now serves as lead director on its Board of Directors. Dr. Burger served as the Chairman, Chief Executive Officer and a Director of AVI Biopharma Inc., an Oregon-based biotechnology company, from 1996 to 2007. Dr. Burger has also been the sole member of Paradigm Ventures LLC, a healthcare consulting and funding firm based in Portland, Oregon, since 1990. He was a co-founder and Chairman of Epitope Inc. from 1981 to 1990. Dr. Burger was Vice Chairman and Chief Scientific Officer of CytoDyn Inc. from 2016 to 2018. Dr. Burger has served as President of Yamhill Valley Vineyards since 1983. In addition, Dr. Burger previously held a professorship in the Department of Microbiology and Immunology and Surgery (Surgical Oncology) at the Oregon Health Sciences University in Portland. Dr. Burger received his M.Sc. and Ph.D. in Microbiology and Immunology from the University of Arizona.</p> <p>Dr. Burger serves on the board of directors of Trinity Biotech, PLC. (1992 to present)* and CytoDyn Inc. (2014 to 2018)*.</p> <p>Dr. Burger makes valuable contributions to the Board based on his Ph.D. in microbiology and immunology, and his more than 25 years of experience in the biotechnology industry as a senior executive and as a corporate director.</p>

Director	Experience and Qualifications
<p>Caroline M. Loewy⁽¹⁾⁽³⁾ California, United States Director Since April 2018</p>	<p>Ms. Loewy, age 52, co-founded and served as Chief Financial Officer and Chief Business Officer of Achieve Life Sciences, Inc. from 2015 to 2017. Prior to that, she held the position of Chief Financial Officer of both public and private biopharmaceutical companies including Tobira Therapeutics, Inc. from 2012 to 2014, Corcept Therapeutics Incorporated from 2008 to 2011, and Poniard Pharmaceuticals, Inc. from 2006 to 2008. Ms. Loewy also spent 11 years as a senior biotechnology equity research analyst at Morgan Stanley and Prudential Securities. She is a founding board member of the Global Genes Project, one of the leading rare disease patient advocacy organizations in the world, and she is a member of the National Advisory Council of the Translational Genomics Research Institute (TGen) Center for Rare Childhood Disorders. She is also a founding board member of the KCNQ2 Cure Alliance Foundation. Ms. Loewy holds a BA degree from the University of California, Berkeley, and an MBA/MS degree from Carnegie Mellon University.</p> <p>Ms. Loewy sits on the board of directors of CymaBay Therapeutics Inc. (2016 to present)* and PhaseBio Pharmaceuticals Inc. (2018 to present)*.</p> <p>Ms. Loewy makes valuable contributions to the Board based on more than 25 years of experience in assessing and accelerating biotechnology product development and growth and her financial expertise as a chief financial officer.</p>
<p>Dr. Erich Platzer⁽²⁾ Basel, Switzerland Director Since 2014</p>	<p>Dr. Platzer, age 68, served as a board certified physician in internal medicine, hematology and medical oncology between 1979 and 1991. He has served as the president of Swiss business angel group StartAngels, and as a director and venture partner of MedTech Innovation Partners, MTIP, a Swiss VC firm focusing on MedTech and eHealth, since 2010. From 2003 to 2015, Dr. Platzer co-founded HBM Healthcare Investments (formerly HBM BioVentures), a global leader in healthcare investing. Previously, he served as the business director of oncology, as well as the global strategic marketing and therapeutic area head of oncology at Roche, Basel. He also served in various other leadership roles at Roche and was responsible for various strategic corporate partnerships. He has over 12 years of experience in academic medicine and research and was a key member of the team at MSKCC that purified human G-CSF in 1983 (recombinant form: Neupogen®). He earned his M.D. from the Medical School and the Institute of Clinical Immunology and Rheumatology of the University of Erlangen, where he also received his “Dr. med. habil.” (M.D., Ph.D.).</p> <p>Dr. Platzer has served as a pharmaceutical industry expert on the board of directors of multiple biotech companies in both the U.S. and Europe. Currently he serves as chairman of Probiodrug, AOT, Léman Micro Devices, and Credentis, as well as a board member of MedTech Innovation Partners, MTIP, and Peripal.</p> <p>Dr. Platzer makes valuable contributions to the Board based on over twenty-five years’ experience in the biotechnology industry as a physician in hematology and medical oncology, as a corporate executive, and as a corporate director.</p>
<p>Dr. William G. Rice California, United States Director Since 2013</p>	<p>Dr. Rice, age 60, joined Aptose as Chairman and Chief Executive Officer in October 2013. Prior to joining Aptose, Dr. Rice served as the President, Chief Executive Officer and Chairman of the board of Cylene Pharmaceuticals, Inc., a private biotechnology company from 2003 to 2013. Prior to Cylene, Dr. Rice was the founder, President, Chief Executive Officer and Director of Achillion Pharmaceuticals, Inc. from 1990 to 2003. He also served as Senior Scientist and Head of the Drug Mechanism Laboratory at the National Cancer Institute-Frederick Cancer Research and Development Center from 1992 to 1998, and served as a faculty member in the division of Pediatric Hematology and Oncology at Emory University School of Medicine from 1989 to 1992. Dr. Rice received his Ph.D. from Emory University Department of Biochemistry.</p> <p>Dr. Rice continues to serve as the Chairman of the board of Cylene and is a member of the board of directors of Oncolytics Biotech Inc. (2015 to present)*.</p> <p>Dr. Rice makes valuable contributions to the Board based on his Ph.D. in Biochemistry, and his over 25 years of experience in the biotechnology industry as a senior executive and as a corporate director.</p>

Director	Experience and Qualifications
Dr. Mark D. Vincent ⁽³⁾ Ontario, Canada Director Since 2007	Dr. Vincent, age 66, has been a Professor of Oncology at the University of Western Ontario since 2008 and a staff medical oncologist at the London Regional Cancer Program, where he has been since 1990. Dr. Vincent has also served as the co-founder and Chief Executive Officer of Sarissa, Inc. since 2000. Dr. Vincent makes valuable contributions to the Board based on over 25 years of experience as a medical oncologist.
Warren Whitehead ⁽¹⁾ Ontario, Canada Director Since 2011	Mr. Whitehead, age 66, served as the Chief Financial Officer of ProMIS Neurosciences Inc. (formerly Amorfix Life Sciences Ltd.) from 2013 to 2015, a TSX-listed company targeting detection and effective treatment of Alzheimer’s disease and amyotrophic lateral sclerosis. Previously, from 2006 to 2008, he was the Chief Financial Officer of Arius Research Inc., a TSX-listed company developing anti-cancer antibodies, where he provided financial guidance and leadership during the acquisition of Arius by Roche in 2008. He was also the former Chief Financial Officer of Labopharm Inc. from 2000 to 2006, where he completed a series of public equity financings, including a cross-border Nasdaq offering. Other positions include Chief Financial Officer of Resolution Pharmaceuticals Inc., and a position in finance and business development at Glaxo Canada (now GlaxoSmithKline). Mr. Whitehead holds an MBA, and BComm from the University of Windsor and a BA from the University of Western Ontario. Mr. Whitehead is the Chairman of Plantform Corporation and a former Board Member of Telesta Therapeutics (TSX), which was acquired by Prometic Life Sciences in 2016. Mr. Whitehead makes valuable contributions to the Board based on his financial expertise as a Chartered Professional Accountant (CPA) and a Certified Management Accountant (CMA) who has held chief financial officer roles at publicly traded pharmaceutical and biotechnology firms. .

- (1) Member of the Audit Committee.
- (2) Member of the Compensation Committee.
- (3) Member of the Corporate Governance and Nominating Committee.
- (4) Lead Director of the Company.
- * SEC reporting issuer

Executive Officers

Aptose’s leadership team comprises accomplished industry, financial and clinical research professionals who are dedicated to building a comprehensive anticancer drug pipeline and clinical development programs focused on targeted therapeutics directed against dysregulated oncogenic processes in patients with life. The team includes our Chairman and Chief Executive Officer Dr. William G. Rice, whose biography is listed above, and our Chief Financial Officer Gregory K. Chow.

Gregory K. Chow, age 46, joined Aptose as Senior Vice President and Chief Financial Officer in December 2013. Previously, Mr. Chow served as Managing Director, Director of Private Placements at Wedbush Securities from 2012 to 2013, where he led the private placement capital activities within the Life Sciences Investment Banking Group. Prior to joining Wedbush, he was a Director in the Private Placements / Equity Capital Markets Group at RBC Capital Markets from 2006 to 2011, where he led life science private capital activities. From 2003 to 2006, he led the Private Capital Group at Wells Fargo Securities and was a Senior Auditor at BDO Seidman, LLP in their Century City, CA office. Mr. Chow is a Certified Public Accountant (inactive) in the State of California. Mr. Chow received his MBA in Finance from The Wharton School at the University of Pennsylvania, and his BA in Business Economics with an emphasis in Accounting from the University of California, Santa Barbara.

Compliance with Section 16(a) of the Exchange Act

To our knowledge, based on a review of the copies of such reports and amendments to such reports furnished to us with respect to the year ended December 31, 2018, and based on written representations by our directors and executive officers, all required Section 16(a) reports under the Exchange Act for our directors, executive officers and beneficial owners of greater than 10 percent of our Common Shares were filed on a timely basis during the year ended December 31, 2018.

Code of Ethics

We have adopted a code of ethics for directors, officers (including our principal executive officer, principal financial officer and principal accounting officer) and employees, known as the Code of Business Conduct and Ethics. The Code of Business Conduct and Ethics is available on our website at <http://www.aptose.com> under the Corporate Governance section of our Investor Relations page. We will promptly disclose on our website (i) the nature of any amendment to the policy that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and (ii) the nature of any waiver, including an implicit waiver, from a provision of the policy that is granted to one of these specified individuals that is required to be disclosed pursuant to SEC rules and regulations, the name of such person who is granted the waiver and the date of the waiver.

Audit Committee

The Company has a standing Audit Committee, each member of which qualifies as “independent” for purposes of membership on audit committees under the listing standards of Nasdaq and the rules and regulations of the SEC.

The current members of the Audit Committee are Caroline Loewy, Denis Burger and Warren Whitehead. Mr. Whitehead is the Chair of the Audit Committee. The Board has determined that all members of the Committee qualify as financial experts under the listing standards of Nasdaq.

ITEM 11. EXECUTIVE COMPENSATION

EXECUTIVE COMPENSATION

Compensation Objectives and Philosophy

The Compensation Committee's mandate is to review and advise the Board on the recruitment, appointment, performance, compensation, benefits and termination of executive officers. The Compensation Committee also administers and reviews procedures and policies with respect to the Share Option Plan (as defined below), the SIP (as defined below), employee benefit programs, pay equity and employment equity and reviews executive compensation disclosure where it is publicly disclosed.

Aptose's executive compensation program is designed to:

- attract and retain qualified, motivated and achievement-oriented individuals by offering compensation that is competitive in the industry and marketplace;
- align executive interests with the interests of shareholders; and
- ensure that individuals continue to be compensated in accordance with their personal performance and responsibilities and their contribution to the overall objectives of the Company.

These objectives are achieved by offering executives and employees a compensation package that is competitive and rewards the achievement of both short-term and long-term objectives of the Company. As such, our compensation package consists of three key elements:

- base salary and initial share options;
- short-term compensation incentives to reward corporate and personal performance through potential annual cash bonuses; and
- long-term compensation incentives related to long-term increase in Common Share value through participation in the Share Option Plan and SIPs.

The Compensation Committee reviews each of these items on a stand-alone basis and also reviews compensation as a total package. Adjustments to compensation are made as appropriate following a review of the compensation package as a whole.

Base Salary — Initial Share Options

In establishing base salaries, the objective of the Compensation Committee is to establish levels that will enable Aptose to attract and retain executive officers that can effectively contribute to the long-term success of the Company. Base salary for each executive officer is determined by the individual's skills, abilities, experience, past performance and anticipated future contribution to the success of Aptose. The members of the Compensation Committee use their knowledge of the industry and of industry trends as well as independent third party consultants to assist with the determination of an appropriate compensation package for each executive officer.

Short-Term Incentives

Short-term compensation incentives motivate our executive officers to achieve specified performance objectives and to reward them for their achievement in the event that those objectives are met. Each year, the Compensation Committee approves the annual corporate objectives encompassing scientific, clinical, regulatory, business and corporate development and financial criteria. The annual cash incentive for the executive officers is based, at least in part, on the level of achievement of these annual objectives, assuming these objectives are still relevant at the time of evaluation.

All corporate and executive officer objectives and short-term incentives are reviewed by the Compensation Committee and approved by the Board.

For each executive officer, during the year ended December 31, 2018, the annual cash incentives ranged from 40% to 50% of base salary.

Cash incentives are determined as soon as practicable after the end of the fiscal year and, for the Named Executive Officers (as defined hereinafter), are included in the Summary Compensation Table in the year in respect of which they are earned.

2018 Performance Metrics

The performance of the Named Executive Officers for the period ended December 31, 2018 was measured with respect to the following objectives:

- 1) Achievement of certain milestones relating to the preclinical development for IND filing, and market awareness of CG-806.
- 2) Achievement of certain milestones relating to the efforts to lift the APTO-253 clinical hold.
- 3) Metrics related to the improvement of the financial position and market recognition and coverage of the Company.
- 4) Metrics related to corporate development and strategic activities, including in connection with competitive positioning and partnering, intellectual property portfolio and human resources.

Each of the above objectives is weighted at 40%, 30%, 20% and 10% respectively in relation to assessment of satisfaction of overall corporate objectives and determination of any general corporate bonuses.

Long-Term Incentives

Long-term compensation incentives at Aptose reward an executive's contribution to the attainment of Aptose's long-term objectives, align an executive's performance with the long-term performance of Aptose and to provide an additional incentive for an executive to enhance shareholder value. Long-term incentive compensation for directors, officers, employees and consultants is reviewed annually and may be accomplished through the grant of share options under our share option plan (the "Share Option Plan") and of stock-based awards comprised of restricted stock units (the "Restricted Stock Units") or dividend equivalents (the "Dividend Equivalents") under our stock incentive plan (the "SIP").

In certain cases, executive officers may be granted share options on the commencement of employment with Aptose in accordance with the responsibility delegated to each executive officer for achieving corporate objectives and enhancing shareholder value in accordance with those objectives.

The number of options granted for certain executives of Aptose for the year ended December 31, 2018 was based on achievement of both corporate and executive officer objectives. The Compensation Committee approves the allocation of options and options are priced using the closing market price of the Common Shares on the TSX on the last trading day prior to the grant. Options to purchase Common Shares expire ten years from the date of grant and vest over a term determined by the Compensation Committee. The Compensation Committee takes into account previous grants of options when considering new grant of options.

The granting of options to Named Executive Officers is included in the Summary Compensation Table in the year in which they are earned.

Other Benefits

In certain cases, the Compensation Committee may recommend inclusion of automobile allowances, fitness allowances and the payment of certain professional dues as a component of a competitive remuneration package for executives.

Employment Agreements

Aptose entered into an employment agreement with Dr. Rice on October 25, 2013 upon his commencement as Chairman, President, and Chief Executive Officer. This agreement was amended and restated on August 19, 2014. Pursuant to the amended and restated employment agreement, Dr. Rice is entitled to an annual base salary of \$480,000, which amount is reviewed annually by the Board and increased at the Board's discretion, upon the advice of the Compensation Committee. Dr. Rice is also eligible for an annual discretionary bonus of up to 50% of his current base salary. The annual bonus is based on the Company's and Dr. Rice's achievement of objectives and milestones to be determined on an annual basis by the Board. Dr. Rice's current agreement also provides for stock option grants, which are governed by the terms of the Company's Stock Option Plan and the applicable stock option agreement, Dr. Rice receives termination benefits described under "Termination and Change of Control Benefits," below. Dr. Rice also receives employee benefits including, without limitation, participation in the Company's 401(k) plan with a 3% nonelective company contribution, a monthly payment of \$2,000 until such time that the Company establishes a group health coverage plan (the Aptose group health coverage plan for US employees was established in July 2014 at which time such monthly payments ceased), 25 days of paid vacation time annually, and an annual automobile allowance of \$14,400. Dr. Rice is subject to certain non-confidentiality restrictions.

Aptose entered into an employment agreement with Mr. Chow upon his commencement as Chief Financial Officer, effective November 29, 2013. Pursuant to the employment agreement, Mr. Chow is entitled to an annual base salary of \$315,000, which amount is reviewed annually by the Board and increased at the Board's discretion, upon the advice of the Compensation Committee. Mr. Chow is also eligible for an annual discretionary bonus of up to 40% of his current base salary. The annual bonus is based on the Company's and Mr. Chow's achievement of objectives and milestones to be determined on an annual basis by the Board. Mr. Chow's agreement also provides for stock option grants which are governed by the terms of the Company's Stock Option Plan and the applicable stock option agreement, and termination benefits described under "Termination and Change of Control Benefits," below. Mr. Chow also receives employee benefits, including, without limitation, participation in any 401(k) plan with a 3% nonelective company contribution, participation in other benefits provided by Aptose to its U.S. based executive officers and other employees, which consist to date of life insurance and health benefits, and 20 days of paid vacation time annually. Mr. Chow is subject to certain non-confidentiality restrictions.

Summary Compensation Table

The following table details the compensation information for the fiscal years ended December 31, 2017 and December 31, 2018 of the Company for our two executive officers, the Chairman, President and Chief Executive Officer and the Senior Vice President and Chief Financial Officer (each, an "NEO" and, collectively the "Named Executive Officers"). All amounts presented are as recorded in US dollars.

Name and Principal Position	Year	Salary (\$)	Stock awards ⁽¹⁾ (\$)	Option awards ⁽²⁾ (\$)	Non-equity incentive plan compensation (\$)	All other compensation ⁽³⁾ (\$)	Total compensation (\$)
Dr. William G. Rice Chairman, President and Chief Executive Officer	2018	540,244	167,500	1,498,970	270,122	22,650	2,499,486
	2017	520,395	57,500	122,182	260,198	22,500	982,775
Mr. Gregory K. Chow Senior Vice President and Chief Financial Officer	2018	375,950	167,500	1,083,387	150,380	8,250	1,785,467
	2017	356,703	57,500	122,182	142,681	8,100	687,166

- (1) The dollar amounts in this column reflect the aggregate grant date fair value of all stock awards granted during the indicated fiscal year. These amounts have been calculated in accordance with ASC 718, excluding the effect of estimated forfeitures. Assumptions used in the calculation of these amounts are included in note 9 to our audited consolidated financial statements included in the Company's Original 10-K. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the NEOs. Dr. Rice and Mr. Chow were each granted 50,000 restricted share units (RSUs) during each of 2017 and 2018, respectively; the RSUs vested over a three month period. Stock awards are subject to the executives' continued employment with the Company. All stock awards issued to Dr. Rice and Mr. Chow may be subject to accelerated vesting following termination of employment. See "Termination and Change of Control Benefits" below.
- (2) The dollar amounts in this column reflect the aggregate grant date fair value of all stock option awards granted during the indicated fiscal year. These amounts have been calculated in accordance with ASC 718, using the Black-Scholes option-pricing model and excluding the effect of estimated forfeitures. Assumptions used in the calculation of these amounts are included in note 9 to our audited consolidated financial statements included in the Company's Original 10-K. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the NEOs.
- During the year ended December 31, 2017, Dr. Rice and Mr. Chow were each awarded 150,000 stock options with vesting periods of four years. The awards granted in 2018 included 700,000 stock options for Dr. Rice, of which 300,000 vested immediately, and 400,000 that will vest over four years, and 500,000 stock options for Mr. Chow of which 150,000 vested immediately and 350,000 that will vest over four years. Stock options are subject to the executives' continued employment with the Company and have a maximum term of 10 years. All stock option grants issued to Dr. Rice and Mr. Chow may be subject to accelerated vesting following termination of employment. See "Termination and Change of Control Benefits" below.
- (3) The dollar amounts in this column reflects the Company's contributions to the executives' accounts in our 401(k) plan in the amount of \$8,100 each for 2017 and \$8,250 each for 2018, and for Dr. Rice's car allowance, which was \$14,400 in both 2017 and 2018.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information concerning the outstanding equity awards as of December 31, 2018 granted to the Named Executive Officers. Certain exercise prices in the table below have been converted from Canadian dollars to US dollars using the Bank of Canada closing exchange rate as at December 31, 2018.

Name and Principal Position	Option Awards		Option exercise price (\$)	Option expiration date
	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable		
Dr. William G. Rice Chairman, President and Chief Executive Officer	35,417	Nil	2.55 ⁽⁶⁾	Oct 27, 2023
	65,136	Nil	5.37 ⁽⁷⁾	Dec 10, 2023
	5,281	Nil	5.10 ⁽⁸⁾	Jan 29, 2024
	140,000	Nil	4.40 ⁽⁹⁾	Apr 10, 2024
	396,129	Nil	4.18 ⁽¹⁰⁾	Jun 15, 2024
	100,000	20,000 ⁽¹⁾	5.10 ⁽¹¹⁾	Jun 9, 2025
	40,000	20,000 ⁽²⁾	2.80 ⁽¹²⁾	Mar 30, 2026
	50,000	50,000 ⁽³⁾	1.11 ⁽¹³⁾	Mar 28, 2027
	25,000	25,000 ⁽⁴⁾	1.03	Jun 6, 2027
	300,000	Nil	2.80	Jan 19, 2028
	Nil	400,000 ⁽⁵⁾	3.07	Jan 22, 2028
	Nil			
	Mr. Gregory K. Chow Senior Vice President and Chief Financial Officer	35,417	Nil	6.86 ⁽¹⁴⁾
35,417		Nil	5.37 ⁽⁷⁾	Dec 10, 2023
35,417		Nil	4.40 ⁽⁹⁾	Apr 10, 2024
22,083		Nil	4.18 ⁽¹⁰⁾	Jun 15, 2024
64,167		Nil	3.87 ⁽¹⁵⁾	Jul 18, 2024
50,000		10,000 ⁽¹⁾	5.10 ⁽¹¹⁾	Jun 9, 2025
40,000		20,000 ⁽²⁾	2.80 ⁽¹²⁾	Mar 30, 2026
50,000		50,000 ⁽³⁾	1.11 ⁽¹³⁾	Mar 28, 2027
25,000		25,000 ⁽⁴⁾	1.03	Jun 6, 2027
150,000		Nil	2.80	Jan 19, 2028
Nil		350,000 ⁽⁵⁾	3.07	Jan 22, 2028
Nil				

1. Unexercisable options vest on June 9, 2019.

2. Unexercisable options vest as follows: 50% vest on March 30, 2019 and 50% vest on March 30, 2020.

3. Unexercisable options vest as follows: 33.33% vest on March 28, 2019, 33.33% vest on March 28, 2020 and 33.33% vest on March 28, 2021.

4. Unexercisable options vest as follows: 33.33% vest on June 6, 2019, 33.33% vest on June 6, 2020 and 33.33% vest on June 6, 2021.

5. Unexercisable options vest as follows: 50% vest on January 22, 2019, 16.67% vest on January 22, 2020, 16.67% vest on January 22, 2021, and 16.67% vest on January 22, 2022.

6. Converted from the Canadian exercise price of \$3.48 at the conversion rate of 0.7333

7. Converted from the Canadian exercise price of \$7.32 at the conversion rate of 0.7333

8. Converted from the Canadian exercise price of \$6.96 at the conversion rate of 0.7333

9. Converted from the Canadian exercise price of \$6.00 at the conversion rate of 0.7333

10. Converted from the Canadian exercise price of \$5.70 at the conversion rate of 0.7333

11. Converted from the Canadian exercise price of \$6.96 at the conversion rate of 0.7333

12. Converted from the Canadian exercise price of \$3.82 at the conversion rate of 0.7333

13. Converted from the Canadian exercise price of \$1.52 at the conversion rate of 0.7333

14. Converted from the Canadian exercise price of \$9.36 at the conversion rate of 0.7333

15. Converted from the Canadian exercise price of \$5.28 at the conversion rate of 0.7333

Retirement Benefits

The Company maintains a 401(k) plan in which eligible employees of the Company may choose to participate, including the Named Executive Officers. The Company makes nonelective contributions of 3% of compensation for all eligible employees, subject to the maximum allowed by the Internal Revenue Code Section 401(k).

Termination and Change of Control Benefits

The employment agreements of Dr. Rice and Mr. Chow provide that if their employment is terminated by the Company other than for “cause” (defined as (i) theft, fraud, dishonesty or material misconduct of the executive involving the property, business or affairs of the Company, which results, or could result in material harm to the Company, (ii) any material breach by the NEO of any term of his employment agreement, or (iii) any material breach of the Employee Information and Inventions Agreement (as defined in each employment agreement)), or if the Named Executive Officer resigns for “good reason” (defined as a material reduction in Executive Base Salary (as defined in each employment agreement), unless pursuant to a salary reduction program, a material reduction in the NEO’s duties or the relocation of the NEO’s principal place of employment) each of Dr. Rice and Mr. Chow shall be entitled to a payment equivalent to 12 months of their respective annual base salaries at the time of termination (Dr. Rice’s December 31, 2018 annual base salary represents \$540,244 and Mr. Chow’s December 31, 2018 annual base salary represents \$375,950), plus an amount equal to the average bonus remuneration received from the Company during the last three years of employment completed prior to the termination date, prorated based on the number of days the executive worked during the year of the termination. In addition, the employment agreements of Dr. Rice and Mr. Chow provide that certain payments related to health benefits will continue to be made for a period of 12 months following termination of their employment.

The employment agreements of Dr. Rice and Mr. Chow provide that, in the event their employment with the Company is terminated within three months immediately preceding or 12 months immediately following the consummation of a “change of control” (defined as the consummation of any of the following: (a) the acquisition of the Company by another entity by means of any transaction or series of related transactions to which the company is a party, (b) a sale, lease or other conveyance of all or substantially all of the assets of the Company, or (c) an liquidation, dissolution or winding up of the Company, whether voluntary or involuntary), each of Dr. Rice and Mr. Chow would be eligible, subject to certain conditions, to receive a payment equivalent to 18 months of their annual base salaries at the time of termination, plus an amount equal to 150% of the average bonus remuneration received from the Company during the last three years of employment completed prior to the termination date, prorated based on the number of days the executive worked during the year of the termination, as well as continuation of the payments related to health benefits for a period of 12 months following the termination following a change of control.

The employment agreements of Dr. Rice and Mr. Chow provide that in the event of their termination, other than for cause, the vesting and exercisability of all then outstanding unvested stock options, restricted shares or other equity awards then held by such NEO become immediately vested and exercisable and shall remain exercisable as set forth in the applicable award documents.

The following table sets out the amount that would have been payable to each NEO had there been a change of control of the Company on December 31, 2018 and the severance payment that would have been payable to each NEO had the Company terminated employment of the NEO without cause on December 31, 2018:

Name	Termination Without Cause	Change of Control
Dr. William G. Rice	\$759,000 ⁽¹⁾	\$1,139,000 ⁽²⁾
Mr. Gregory K. Chow	\$496,000 ⁽¹⁾	\$744,000 ⁽²⁾

- (1) This amount represents 12 months of annual base salary at the time of termination, plus an amount equal to the average bonus remuneration received from the Company during the last three years of employment completed prior to the termination date, prorated based on the number of days the executive worked during the year of the termination (assumed at 100%), as well as continuation of the payments related to health benefits for a period of 12 months following the termination.
- (2) This amount represents 18 months of annual base salary at the time of termination, plus an amount equal to 150% of the average bonus remuneration received from the Company during the last three years of employment completed prior to the termination date, prorated based on the number of days the executive worked during the year of the termination (assumed at 100%), as well as continuation of the payments related to health benefits for a period of 12 months following the termination.

DIRECTOR COMPENSATION

Overview

The Compensation Committee makes recommendations regarding compensation payable to our non-employee directors to the entire Board of Directors, which then makes final decisions regarding such compensation.

Cash Compensation

Directors are entitled to an annual fee of \$40,000 with no per meeting fees. The lead director is entitled to an additional annual fee of \$40,000. The chair of each committee is entitled to an annual fee of \$12,000 with each committee member receiving an annual fee of \$8,000 per committee. All fees are paid in quarterly installments.

Non-executive directors are reimbursed for any out-of-pocket travel expenses incurred in order to attend meetings. Executive directors are not entitled to directors' compensation.

Option Awards

Upon appointment to the Board a director will be entitled to an option grant of 25,000 options under the Stock Option Plan and each year thereafter are eligible for an additional grants at the beginning of the fiscal year. The options vest 50% after one year, and 25% for each of the second and third years. If a director resigns, the director will have 90-days to exercise all vested and unexercised options from the date resignation.

The following table details the compensation received by each director for the year ended December 31, 2018:

Name	Fees earned or paid in cash (\$)	Option awards ⁽¹⁾⁽²⁾ (\$)	Total (\$)
Carol G. Ashe ⁽³⁾	28,000	55,278	83,278
Caroline M. Loewy ⁽³⁾	42,000	57,335	99,335
Dr. Denis Burger	100,000	121,713	221,713
Brad Thompson ⁽³⁾	32,000	121,713	153,713
Dr. Mark Vincent	52,000	121,713	173,713
Mr. Warren Whitehead	52,000	121,713	173,713
Dr. Erich Platzer	48,000	121,713	169,713

- (1) The dollar amounts in this column reflect the aggregate grant date fair value of all stock option awards granted during the indicated fiscal year. These amounts have been calculated in accordance with ASC 718, using the Black-Scholes option-pricing model and excluding the effect of estimated forfeitures. Assumptions used in the calculation of these amounts are included in note 9 to our audited consolidated financial statements included in the Company's Original 10-K. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the non-employee directors.

- (2) The aggregate number of Common Shares subject to outstanding stock options held by each of the non-employee directors listed in the table above as of December 31, 2018 was as follows: 25,000 for Ms. Ashe, 25,000 for Ms. Loewy, 120,334 for Dr. Burger, 114,083 for Dr. Vincent, 112,500 for Mr. Whitehead, 95,500 for Dr. Platzer, and 35,750 for Mr. Thompson.
- (3) Mr. Thompson resigned from the Board effective June 5, 2018. Ms. Loewy joined the Board effective April 25, 2018, and Ms. Ashe joined the Board effective August 15, 2018. In recognition of his service, all of Mr. Thompson's outstanding options vested immediately and will expire on June 5, 2019.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Share Ownership of Certain Beneficial Owners, Management and Directors

The table below sets forth information known to us regarding the beneficial ownership of our Common Shares as of February 28, 2019 for:

- each person the Company believes beneficially holds more than 5% of the outstanding shares of our Common Shares based solely on our review of SEC filings;
- each of our directors and director nominees;
- each of the Named Executive Officers named in the Summary Compensation Table; and
- all of our directors, director nominees and executive officers as a group.

The number of Common Shares beneficially owned by a person includes shares subject to options held by that person that are currently exercisable or that become exercisable within 60 days of February 28, 2019. Percentage calculations assume, for each person and group, that all Common Shares that may be acquired by such person or group pursuant to options currently exercisable or that become exercisable within 60 days of February 28, 2019 are outstanding for the purpose of computing the percentage of Common Shares owned by such person or group. However, such unissued Common Shares described above are not deemed to be outstanding for calculating the percentage of Common Shares owned by any other person.

Except as otherwise indicated, the persons in the table below have sole voting and investment power with respect to all Common Shares shown as beneficially owned by them, subject to community property laws where applicable and subject to the information contained in the notes to the table.

Name of Beneficial Owner	Amount and Nature of Beneficial Ownership ⁽¹⁾	Percent of Class
<i>Named Executive Officers and Directors</i>		
Carol G. Ashe	-	*
Dr. Denis Burger	129,922	*
Gregory K. Chow	821,185	2.04%
Caroline Loewy	12,500	*
Dr. Erich Platzer	203,334	*
Dr. William G. Rice	1,516,647	3.77%
Mark D. Vincent	113,917	*
Warren Whitehead	155,834	*
<i>All Executive Officers and Directors as a Group</i>	2,953,339	7.34%
<i>Beneficial Owners of More Than 5%</i>		
Herbert Abramson ⁽²⁾	3,717,000	9.23%
DRW Securities, LLC ⁽³⁾	2,473,135	6.14%

*Does not exceed one percent of Common Shares outstanding

- (1) Includes for the persons listed below the following Common Shares subject to options held by such persons that are currently exercisable or become exercisable within 60 days of February 28, 2019: 113,668 for Dr. Denis Burger, 709,171 for Mr. Gregory Chow, 12,500 for Caroline Loewy, 88,334 for Dr. Erich Platzer, 1,383,633 for Dr. William G. Rice, 107,417 for Dr. Mark D. Vincent, 105,834 for Mr. Warren Whitehead.
- (2) Based on information contained in a Schedule 13G/A filed with the SEC on January 16, 2019 by Herbert Abramson, 22 St. Clair Avenue East, 18th Floor, Toronto, Ontario, Canada, M4T 2S3. The filing indicated that as of December 31, 2018, Mr. Abramson had sole voting and dispositive power over all of these shares, of which 103,611 shares are held through Technifund Inc., an investment holding company of which Mr. Abramson holds 100% of the outstanding preferred shares and serves as President and sole Director.
- (3) Based on information contained in a schedule 13G filed with the SEC on February 8, 2019 by DRW Securities, LLC, 540 West Madison Street, Suite 2500, Chicago, Illinois 60661. The file indicated that as of December 31, 2018, DRW Securities, LLC had sole voting and dispositive power over all of these shares.

Equity Compensation Plan Information

The following table sets forth certain details as at the end of the year ended December 31, 2018 with respect to compensation plans pursuant to which equity securities of the Company are authorized for issuance.

Plan Category	Number of Shares to be issued upon exercise of outstanding options ⁽¹⁾	Weighted- average exercise price of outstanding options (b)	Number of Shares remaining available for future issuance under the equity compensation plans (Excluding Shares reflected in Column (a)) ⁽²⁾
	(a)	(b)	(c)
Equity compensation plans approved by security holders	4,487,105	\$ 3.11	2,191,211
Equity compensation plans not approved by security holders			
Total	4,487,105		2,191,211

1. Includes stock options exercisable for 2,543,728 shares granted under the Share Option Plan.
2. Includes stock option awards, restricted share units, and dividend equivalents that may be awarded under our Share Option Plan and Stock Incentive Plan as at December 31, 2018. There are no shares subject to outstanding rights to purchase or shares remaining issuable under our Employee Stock Purchase Plan as at December 31, 2018.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Related Party Transactions

For the last two completed fiscal years of the Company, no director, proposed director, executive officer, or immediate family member of a director, proposed director or executive officer nor, to the knowledge of our directors or executive officers, after having made reasonable inquiry, any person or company who beneficially owns, directly or indirectly, Common Shares carrying more than 5% of the voting rights attached to all Common Shares outstanding at the date hereof, or any immediate family member thereof, had any material interest, direct or indirect, in any transaction or proposed transaction of the Company which involves an amount exceeding the lesser of \$120,000 or one percent of the average of the Company's total assets at year end.

Independence of the Board

The Company's Board is currently composed of seven directors, six of whom meet the independence standards under the listing standards of Nasdaq. Each year the Board reviews the composition of the Board and assesses whether a Board member is "independent".

Director	Independence
Carol Ashe	Yes
Denis Burger	Yes
Caroline Loewy	Yes
Erich Platzer	Yes
William G. Rice	No
Mark Vincent	Yes
Warren Whitehead	Yes

Board Committees

The Company has a standing Audit Committee, a Corporate Governance and Nominating Committee and a Compensation Committee, each of which is composed entirely of independent directors.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Audit, Audit-Related, Tax and Other Fees

The tables below present fees for professional services rendered by KPMG LLP for the fiscal years ended December 31, 2017 and 2018, respectively.

	Aggregate Amount Billed ⁽⁵⁾	
	2018	2017
Audit Fees ⁽¹⁾	\$ 104,193	\$ 96,263
Audit Related Fees ⁽²⁾	187,084	154,328
Tax Fees ⁽³⁾	20,985	-
All Other Fees ⁽⁴⁾	-	-

(1) Audit fees consisted of the audit of our annual financial statements for the fiscal years ended December 31, 2017 and 2018, respectively.

(2) Audit-related fees consist of the aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the issuer's financial statements and are not reported under "Audit Fees" above and include the provision of comfort letters and consents, the consultation concerning financial accounting and reporting of specific issues and the review of documents filed with regulatory authorities.

(3) Tax fees include fees billed for tax compliance, tax advice and tax planning services, including the preparation of original tax returns; tax consultations, tax planning services; and consultation and planning services.

(4) All other fees include the aggregate fees billed for products and services provided by the auditors, other than the services reported above

(5) All fees by KPMG are invoiced and paid in Canadian dollars. Fees for 2018 have been translated to US dollars at the Bank of Canada annual exchange rate of 0.7718, and fees for 2017 have been translated to US dollars at the Bank of Canada annual exchange rate of 0.7701.

Pre-Approval Policies and Procedures

The Audit Committee has adopted procedures pursuant to which all audit, audit-related and tax services, and all permissible non-audit services provided by our independent registered public accounting firm must be pre-approved by the Audit Committee. All services rendered by KPMG LLP during our fiscal years 2018 and 2017 were permissible under applicable laws and regulations and were approved in advance by the Audit Committee in accordance with the rules adopted by the SEC in order to implement requirements of the Sarbanes-Oxley Act of 2002, other than de minimis non-audit services allowed under applicable law.

PART IV.

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) Documents filed as part of this report.

1. Financial Statements. Consolidated Financial Statements are included in our Original 10-K immediately following the signature page of the report.
2. Financial Statement Schedules.

All schedules were omitted because they were not applicable or the required information was shown in the Consolidated Financial Statements or notes thereto filed with our Original 10-K.

(b) Exhibits

The exhibits listed in Part IV, Item 15. "Exhibits, Financial Statement Schedules" of the Original 10-K were filed or incorporated by reference as part of the Original 10-K and the exhibits listed in the Exhibit Index below are filed herewith as part of this Amendment No. 1.

Exhibit Number	Description of Document
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<u>31.1</u>	<u>Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
<u>31.2</u>	<u>Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, William G. Rice, certify that:

1. I have reviewed this Amendment No. 1 to Annual Report on Form 10-K/A of Aptose Biosciences Inc.; and
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.

Date: March 26, 2019

/s/ William G. Rice, Ph.D.

Name: William G. Rice, Ph.D.

Title: President and Chief Executive Officer

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Gregory K. Chow, certify that:

1. I have reviewed this Amendment No. 1 to Annual Report on Form 10-K/A of Aptose Biosciences Inc.; and
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.

Date: March 26, 2019

/s/ Gregory K. Chow

Name: Gregory K. Chow

Title: Senior Vice President and Chief Financial Officer