May 5, 2015

Aptose Biosciences Reports Results for the First Quarter Ended March 31, 2015

SAN DIEGO AND TORONTO, May 5, 2015 /PRNewswire/ - Aptose Biosciences Inc. (NASDAQ: APTO, TSX: APS) ("Aptose" or the "Company") today reported financial results for the three months ended March 31, 2015 and provided a corporate update. Unless specified otherwise, all amounts are in Canadian dollars.

Effective July 17, 2014 the Company changed its fiscal year end from May 31 to December 31. As a result of that change, the current interim period being reported is for the three months ended March 31, 2015, while the prior year comparative period is for the three months ended February 28, 2014.

Net loss for the three months ended March 31, 2015 was $3.6 million ($0.30 per share) compared with $2.4 million ($0.48 per share) during the three months ended February 28, 2014. Total cash and cash equivalents and investments at March 31, 2015 were $28.9 million.

"Aptose is focused this year on advancing its lead program, APTO-253, through clinical development, and we are pleased to have expanded the number of top-tier research institutions as clinical sites for our Phase 1b trial, along with continued support from leading investigators in hematology. We are also taking advantage of certain R&D initiatives to expand our insight into the most promising applications for APTO-253 and to identify the most sensitive patient subpopulations for APTO-253," said William G. Rice, Ph.D., Chairman, President and Chief Executive Officer. "We are continuing to evaluate opportunities to leverage Aptose's focused and high-quality development organization that will build value for shareholders, as we maintain our strong financial position."

Corporate Highlights

- In early April, Aptose entered into an at-the-market (ATM) facility for up to US $20,000,000. The ATM will, along with the effective shelf prospectus that was filed recently in December, provide the Company with the added flexibility to quickly access the market and raise capital at market price without the need to undertake a larger, more dilutive offering.
- During the quarter, Aptose reported that the Phase 1b trial of APTO-253 had been initiated at Baylor Cancer Center in Dallas and the MD Anderson Cancer Center in Houston. Oregon Health & Sciences University (OHSU) and the University of Michigan have also joined the study as clinical research sites and are active participants in the trial. The study is an ongoing open-label, single-agent, dose-escalating Phase 1b clinical trial in patients with relapsed or refractory hematologic malignancies including AML and high-risk MDS; it is designed to assess the safety, tolerability, pharmacokinetics and pharmacodynamic responses and efficacy of APTO-253 as a single agent. Indeed the trial consists of a dose escalating Arm A that includes patients

with acute myeloid leukemia (AML) and high risk MDS, and a dose escalating Arm B that includes patients with lymphoma or myeloma and the Company reports that patients are enrolled on both arms.

- Aptose provided an update on the Beat AML Initiative, which is a research initiative among The Leukemia & Lymphoma Society and the Knight Cancer Institute at OHSU to better understand (AML), including identification of possible genetic drivers of AML by conducting a deep genomic sequencing analysis of participating AML patients' samples. Aptose is working with leading investigators at OHSU to evaluate the effectiveness of APTO-253 against fresh isolates from patients with AML and other hematologic malignancies, affording the Company an opportunity to develop a targeted treatment strategy alone or in combination with other agents. The Company expects to disclose such research data in or around December 2015 and Aptose plans to present it during the 2015 Annual Meeting of the American Society of Hematology.
- Michael Andreeff, M.D., Ph.D., Professor of Medicine, Department of Leukemia, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center (MDACC), joined the Aptose Scientific Advisory Board. Dr. Andreeff is a renowned researcher in hematopoietic malignancies.

FINANCIAL RESULTS

Net loss for the three months ended March 31, 2015 was $3.6 million ($0.30 per share) compared with $2.4 million ($0.48 per share) during the three months ended February 28, 2014. The increase in net loss is due to higher research and development costs associated with increased clinical activity on APTO-253 and associated activities as well as increased general and administrative costs associated with higher stock-based compensation costs and expenses related to the NASDAQ listing, prospectus supplement and related costs, the expense of relocating the Toronto facilities and other corporate activities.

Research and development expenses totaled $884 thousand in the three months ended March 31, 2015 compared to $597 thousand during the three months ended February 28, 2014. Research and development costs consist of the following:

Components of research and development expenses:

	Three months ended	
	March 31, 2015	February 28, 2014
Small molecule program costs	**$ 860**	$ 519
Stock-based compensation	**19**	15
Deferred share unit costs	**–**	59
Depreciation of equipment	**5**	4
	$ 884	$ 597

The increase in research and development costs in the three months ended March 31, 2015 compared with the three months ended February 28, 2014 is due primarily to the ongoing Phase 1b clinical trial of APTO-253 in the current year period compared with no ongoing clinical development in the prior year period. In addition, we have initiated studies to optimize the formulation of APTO-253 for which no comparable work was ongoing in the prior year. Finally, we incurred costs associated with the clean-up and relocation of our lab facilities in Toronto to new locations in Toronto and San Diego.

General and administrative expenses totaled $2.8 million for the three months ended March 31, 2015 compared to $1.8 million in the three months ended February 28, 2014. General and administrative expenses consist of the following:

Components of general and administrative expenses:

	Three months ended	
	March 31, 2015	February 28, 2014
General and administrative excluding salaries	**$ 1,069**	$ 520
Salaries	**753**	780
Stock-based compensation	**940**	334
Deferred share unit costs	**–**	136
Depreciation of equipment	**7**	1
	$ 2,769	$ 1,771

General and administrative costs excluding salaries are higher in the three months ended March 31, 2015 compared with the three months ended February 28, 2014 due to the following reasons:

- NASDAQ listing and related expenses including annual listing fees and increased directors' and officers' insurance costs;
- Increased legal and audit fees associated with the filing of a base shelf prospectus supplement;
- Additional rent related to the new office location in San Diego as well as clean up and moving costs related to the Toronto relocation;
- Increased travel costs;
- A depreciation in the Canadian dollar which has resulted in an increase to the cost of U.S. dollar denominated expenditures.

Salary costs have remained consistent in the three months ended March 31, 2015 compared with the three months ended February 28, 2014.

Stock-based compensation costs increased in the three months ended March 31, 2015 compared with the three months ended February 28, 2014 due to large option grants in April, June and July 2014 which vest 50% during the first year and therefore contribute to higher stock-based compensation expense during the first twelve-month period.

Deferred share unit costs relate to the marked to market adjustment on outstanding units at February 28, 2014. The outstanding units were settled in April 2014 and no amounts remain outstanding.

Aptose utilized cash of $2.2 million in operating activities in the three months ended March 31, 2015 compared with $2.2 million in the three months ended February 28, 2014.

At March 31, 2015 Aptose had cash and cash equivalents and investments of $28.9 million compared to $30.5 million at December 31, 2014.

(unaudited)

(amounts in 000's of Canadian Dollars except for per common share data)	Three months ended Mar. 31, 2015	Three months ended Feb. 28, 2014
REVENUE	**$ -**	**$ -**
EXPENSES		
Research and development	**884**	**597**
General and administrative	**2,769**	**1,771**
Operating expenses	**3,653**	**2,368**
Finance expense	**20**	**78**
Finance income	**(104)**	**(13)**
Net finance expense (income)	**(84)**	**65**
Net loss and total comprehensive loss for the period	**3,569**	**2,433**
Basic and diluted loss per common share	**$ 0.30**	**$ 0.48**
Weighted average number of common shares outstanding used in the calculation of basic and diluted loss per common share (000's)	**11,794**	**5,106**

For further details and to view Aptose's December 31, 2014 Audited Consolidated Financial Statements and Management's Discussion and Analysis, please see Aptose's filings on www.sedar.com and on www.aptose.com.

CONFERENCE CALL AND WEBCAST

Aptose will host a conference call to discuss results for the three months ended March 31, 2015 on Tuesday, May 5, 2015 at 5:00 p.m. EDT. Participants can access the conference call by dialing 1-888-231-8191 (North American toll free number) or 647-427-7450 (local). The conference call will be available via a live webcast at http://event.on24.com/r.htm?e=990234&s=1&k=7DA58D23E04E573834E49D49A834FE8F and will also be available through a link on the Investor Relations section of Aptose's website at http://www.aptose.com/events/. Please log onto the webcast at least 10 minutes prior to the start of the call to ensure time for any software downloads that may be required. An archived version of the webcast will be available on the company's website for 30 days. An audio replay of the webcast will be available approximately two hours after the conclusion of the call for 30 days by dialing 1-855-859-2056, using the passcode 38420602.

NOTE

The information contained in this news release is unaudited.

About Aptose

Aptose Biosciences is a clinical-stage biotechnology company committed to discovering and developing personalized therapies addressing unmet medical needs in oncology. Aptose is advancing new therapeutics focused on novel cellular targets on the leading edge of cancer research, coupled with companion diagnostics to identify the optimal patient population for our products. The Company's small molecule cancer therapeutics pipeline includes products designed to provide enhanced efficacy with existing anti-cancer therapies and regimens without overlapping toxicities. Aptose Biosciences Inc. is listed on NASDAQ under the symbol APTO and on the TSX under the symbol APS.

This press release contains forward-looking statements within the meaning of Canadian and U.S. securities laws. Such statements include, but are not limited to, statements relating to Aptose's plans, objectives, expectations and intentions and other statements including words such as "continue", "expect", "intend", "will", "should", "would", "may", and other similar expressions. Such statements reflect our current views with respect to future events and are subject to risks and uncertainties and are necessarily based upon a number of estimates and assumptions that, while considered reasonable by us are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause our actual results, performance or achievements to be materially different from any future results, performance or achievements described in this press release. Such expressed or implied factors include, among others: changes in our stock price; our ability to meet listing requirements; our ability to obtain the capital required for research and operations; the inherent risks in early stage drug development including demonstrating efficacy; development time/cost and the regulatory approval process; the progress of our clinical trials; our ability to find and enter into agreements with potential partners; our ability to attract and retain key personnel; changing market conditions; stock market volatility; and other risks detailed from time-to-time in our ongoing quarterly filings, annual information forms, annual reports and annual filings with Canadian securities regulators and the United States Securities and Exchange Commission.

Should one or more of these risks or uncertainties materialize, or should the assumptions set out in the section entitled "Risk Factors" in our filings with Canadian securities regulators and the United States Securities and Exchange Commission underlying those forward-looking statements prove incorrect, actual results may vary materially from those described herein. These forward-looking statements are made as of the date of this press release and we do not intend, and do not assume any obligation, to update these forward-looking statements, except as required by law. We cannot assure you that such statements will prove to be accurate as actual results and future events could differ materially from those anticipated in such statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

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