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

FORM 6-K

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

For the month of April 2018

Commission File Number: **001-32001**

Aptose Biosciences Inc.
(Translation of registrant's name into English)

5955 Airport Road, Suite 228
Mississauga, ON
L4V 1R9
(Address of principal executive office)

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

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

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

On April 16, 2018, the Registrant issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

(c) Exhibit 99.1. Press release dated April 16, 2018

SIGNATURES

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

Aptose Biosciences Inc.
(Registrant)

Date: April 16, 2018

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

EXHIBIT 99.1

OHSU and Aptose Present New CG'806 Preclinical Data at 2018 AACR Annual Meeting

CG'806 Continues to Demonstrate Superior Activity to Other FLT3 and BTK Inhibitors Against Patient Samples

CHICAGO and PORTLAND, Ore. and SAN DIEGO, April 16, 2018 (GLOBE NEWSWIRE) -- Oregon Health & Science University (OHSU) Knight Cancer Institute and Aptose Biosciences Inc. (NASDAQ:APTO) (TSX:APS) today announced the presentation of preclinical data demonstrating that CG'806, a highly potent pan-FLT3/pan-BTK inhibitor, kills malignant cells in samples from patients with various hematologic malignancies and demonstrates superiority to other kinase inhibitors. The data were presented in a poster on Sunday, April 15, at the 2018 American Association for Cancer Research (AACR) Conference being held April 14-18, in Chicago, IL.

The poster, entitled CG'806, a first-in-class pan-FLT3/pan-BTK inhibitor, demonstrates superiority to other FLT3 and BTK inhibitors against primary patient samples, demonstrated the broad activity of CG'806 against primary bone marrow specimens from patients with various hematologic malignancies. CG'806 is a small molecule that potently inhibits wild type (WT) FLT3, as well as FLT3 housing the ITD mutation or with point mutations in the tyrosine kinase domain (TKD, including D835G, D835Y, D835H) or in the gatekeeper region (F691L); it also inhibits BTK WT and BTK-C481S. As part of the Beat AML Initiative, researchers at OHSU tested CG'806 against freshly isolated primary samples from patients with acute myeloid leukemia (AML), chronic lymphocytic leukemia (CLL) and other hematologic malignancies to determine its potency and range of action. Against AML patient samples, CG'806 was evaluated relative to other FLT3 inhibitors. In parallel, CG'806 and ibrutinib, a covalent BTK inhibitor approved for CLL and certain other B-cell malignancies, were compared directly for sensitivities on primary CLL samples and various B-cell and other hematologic malignancies. CG'806 was shown to have greater potency against a broader subset of AML samples relative to other FLT3 inhibitors, including midostaurin, gilteritinib, quizartinib, sorafenib, crenolanib, and dovitinib. This was especially true in FLT3-ITD and FLT3-TKD positive cases, although enhanced activity was also observed in FLT3 WT samples. CG'806 was also shown to have greater potency and range of activity on primary CLL samples than ibrutinib.

"The clinical benefit of current FLT3 inhibitors in AML is transient, as resistance develops after several months of treatment," said Stephen E. Kurtz, Ph.D., lead author and Research Assistant Professor at the OHSU Knight Cancer Institute. "Similarly, ibrutinib, a covalent BTK inhibitor approved for CLL and certain other B-cell malignancies, is limited by acquired resistance, as well as refractory disease and tolerance challenges. As a pan-FLT3/pan-BTK inhibitor – especially in the absence of observed toxicity in murine AML models – CG'806 offers important potential to address these limitations."

"CG'806 appears superior to other FLT3 and BTK inhibitors, and the wealth of data supporting its development in AML and B-cell malignancies continues to grow," said William G. Rice, Ph.D., Chairman and Chief Executive Officer of Aptose. "These studies are critical for understanding how to develop and position CG'806 as we prepare for clinical development in these challenging hematologic malignancies."

Separately, Aptose researchers also announced new data on CG'806 presented at AACR (see press release here). Both poster presentations will be published in the AACR Conference Proceedings. The posters can also be accessed here or at the Publications & Presentations section of the Aptose website, www.aptose.com.

For more information on Beat AML refer to https://www.lls.org/content/what-is-beat-aml.

About CG'806

CG'806 is an oral, first-in-class pan-FLT3/pan-BTK multi-kinase inhibitor. This small molecule demonstrates potent inhibition of wild type and mutant forms of FLT3 (including internal tandem duplication, or ITD, and mutations of the receptor tyrosine kinase domain and gatekeeper region), eliminates acute myeloid leukemia (AML) tumors in the absence of toxicity in murine xenograft models, and represents a potential best-in-class therapeutic for patients with AML. Likewise, CG'806 demonstrates potent, non-covalent inhibition of the wild type and Cys481Ser mutant forms of the BTK enzyme, as well as other oncogenic kinase pathways operative in B cell malignancies, suggesting CG'806 may be developed for various B cell malignancy patients (including CLL, MCL, DLBCL and others) that are resistant/refractory/intolerant to covalent BTK inhibitors. CG'806 is currently in preclinical development in partnership with CrystalGenomics.

About Aptose

Aptose Biosciences is a clinical-stage biotechnology company committed to 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. The company's small molecule cancer therapeutics pipeline includes products designed to provide single agent efficacy and to enhance the efficacy of other anti-cancer therapies and regimens without overlapping toxicities. For further information, please visit www.aptose.com.

Forward Looking Statements

This press release contains forward-looking statements within the meaning of Canadian and U.S. securities laws, including, but not limited to, statements regarding the clinical potential and favorable properties of CG'806, and statements relating to the Company's plans, objectives, expectations and intentions and other statements including words such as "continue", "expect", "intend", "will", "should", "would", "may", "potential" 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 factors could include, among others: 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 and economic conditions; inability of new manufacturers to produce acceptable batches of GMP in sufficient quantities; unexpected manufacturing defects; 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.

For further information, please contact:

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