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

Aptose Presents New Preclinical Data on CG'806 Pan-FLT3/ Pan-BTK Inhibitor at 2018 AACR Annual Meeting

CG'806 targets multiple pathways and kills cancer cells resistant to other FLT3 and BTK inhibitors

CHICAGO and SAN DIEGO and TORONTO, April 16, 2018 (GLOBE NEWSWIRE) -- Aptose Biosciences Inc. (NASDAQ:APTO) (TSX:APS) today announced the presentation of preclinical data demonstrating the robust cell killing ability of CG'806, a pan-FLT3/pan-BTK inhibitor, in multiple types of AML and B-cell malignancies. Data further demonstrated that CG'806 targets multiple pathways and overcomes drug resistance seen with other inhibitors. The data were presented in a poster on Sunday, April 15, 2018 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, targets multiple pathways to kill diverse subtypes of acute myeloid leukemia and B-cell malignancy in vitro, explores the potency and molecular mechanisms of the pan-FLT3/pan-BTK inhibitor CG'806 in hematologic malignancies relative to other FLT3 or BTK inhibitors commercialized or in development. The Aptose research team led by Dr. Hannah Zhang, Senior Director of Research, demonstrated that in FLT3-ITD AML cells, CG'806 induced apoptosis through inhibition of FLT3 signaling, and CG806 was approximately 10-fold more potent than quizartinib. Although FLT3-ITD is found in approximately 30% of AML patient, most AML patients express wild type (WT) FLT3. CG'806 was superior to quizartinib, gilteritinib and crenolanib FLT3 inhibitors in FLT3-WT AML cell lines. In B cell malignancies, BTK signaling plays a pivotal pathogenic role. CG'806 decreased BTK phosphorylation in all malignant B cell lines tested and inhibited cell proliferation and colony formation 50-6,000 times more potently than ibrutinib, an effect explained by the ability of CG'806 to target multiple rescue pathways rather than merely the exclusive inhibition of BTK signaling.

CG'806 demonstrated the ability to target all wild type (WT) and mutant forms of FLT3 and BTK and to inhibit multiple signaling pathways, producing killing of diverse subtypes of hematologic malignancies driven by different genomic aberrations.

"This study directly compares CG'806 to other FLT3 or BTK inhibitors in development and confirms the potent and extended activity we have seen with the molecule," said William G. Rice, Ph.D., Chairman and Chief Executive Officer of Aptose. "As a pan-FLT3/pan-BTK multi-kinase inhibitor that can eliminate tumors in the absence of toxicity in animal models, CG'806 has demonstrated the ability to kill a broad range of AML and B-cell malignancies through inhibition of multiple oncogenic pathways. We are eager to pursue its clinical development."

Separately, Aptose and Oregon Health & Science University (OHSU) Knight Cancer Center 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.

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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