

May 29, 2019



Aptose Announces Proposed Public Offering of Common Shares

SAN DIEGO and TORONTO, May 29, 2019 (GLOBE NEWSWIRE) -- Aptose Biosciences Inc. ("Aptose" or the "Company") (NASDAQ: APTO, TSX: APS), today announced that it has commenced an underwritten public offering of its Common Shares (the "Offering"). In addition, Aptose intends to grant the underwriters a 30-day option to purchase up to an additional 15% of the common shares offered in the Offering. The Offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

Aptose intends to use the net proceeds of the Offering to accelerate and expand its clinical trial programs, and for working capital and general corporate purposes.

RBC Capital Markets and Canaccord Genuity are acting as joint book-running managers for the Offering.

No Common Shares will be offered or sold in Canada as part of this Offering. The Offering is subject to the approval of the Toronto Stock Exchange ("TSX"). For the purposes of TSX approval, the Company is relying on the exemption set forth in Section 602.1 of the TSX Company Manual, which provides that the TSX will not apply its standards to certain transactions involving eligible interlisted issuers on a recognized exchange, such as NASDAQ.

The securities described above are being offered by Aptose pursuant to a shelf registration statement on Form S-3 (File. No. 333-230218), including a base prospectus, that was previously filed by Aptose with the Securities and Exchange Commission ("SEC") and declared effective on April 25, 2019. The offering is being made only by means of a written prospectus and prospectus supplement that form a part of the registration statement. A copy of the Prospectus Supplement and the accompanying prospectus will be available on EDGAR at www.sec.gov or may be obtained upon request to Aptose's Investor Relations Department using the contact information set out below. Before you invest, you should read the Prospectus Supplement and the accompanying prospectus and other documents the issuer has filed with the SEC for more complete information about the issuer and this offering. You may get these documents for free by visiting EDGAR on the SEC Web site at www.sec.gov. Copies of the the Prospectus Supplement and the accompanying prospectus may also be obtained, once available, from RBC Capital Markets, LLC, 200 Vesey Street, 8th Floor, New York, NY 10281 Attention: Equity Syndicate or by email at equityprospectus@rbccm.com, or Canaccord Genuity LLC Attention: Syndicate Department, 99 High Street, Suite 1200, Boston, MA 02110, by telephone at (617) 371-3900 or by e-mail at prospectus@canaccordgenuity.com.

This press release does not constitute an offer to sell or the solicitation of offers to buy any

securities of Aptose, and shall not constitute an offer, solicitation or sale of any security in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About Aptose

Aptose Biosciences is a clinical-stage biotechnology company committed to developing personalized therapies addressing unmet medical needs in oncology, with an initial focus on hematology. 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. The company has two clinical-stage investigational products for hematologic malignancies: CG-806, an oral, first-in-class pan-FLT3/pan-BTK multi-cluster kinase inhibitor, is in a Phase 1 trial in patients with relapsed or refractory B cell malignancies, including chronic lymphocytic leukemia (CLL), small lymphocytic lymphoma (SLL) and non-Hodgkin lymphoma (NHL), who have failed or are intolerant to standard therapies; APTO-253, the only clinical stage agent that directly targets the MYC oncogene and inhibits its expression, is in a Phase 1b clinical trial for the treatment of patients with relapsed or refractory acute myeloid leukemia (AML) or high risk myelodysplastic syndrome (MDS).

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 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.

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