December 3, 2014

Aptose Biosciences to Present Preclinical Research Update for APTO-253 at the 56th American Society of Hematology Annual Meeting

SAN DIEGO AND TORONTO, Dec. 3, 2014 /PRNewswire/ - Aptose Biosciences Inc. (Aptose) (NASDAQ: APTO; TSX: APS), a clinical-stage company developing targeted agents and molecular diagnostics to treat the underlying mechanisms of cancer, today announced that preclinical data for its lead investigational anticancer therapeutic APTO-253 will be presented at the 56th American Society of Hematology (ASH) Annual Meeting and Exposition in San Francisco, December 6-9, 2014.

At the 2014 ASH meeting, Aptose will present preclinical in vivo data on APTO-253 including studies evaluating activity as a single agent and in combination with azacitidine in murine xenograft AML models. The accepted abstract is available online on the ASH conference website: https://ash.confex.com/ash/2014/webprogram/Paper73402.html

Poster Presentation Details

Title: APTO -253 Induces KLF4 to Promote Potent in Vitro Pro-Apoptotic Activity in Hematologic Cancer Cell Lines and Antitumor Efficacy as a Single Agent and in Combination with Azacitidine in Animal Models of Acute Myelogenous Leukemia.

- Monday, December 8, 2014, 6:00 PM - 8:00 PM PT
- Location: West Building, Level 1 (Moscone Center)
- Paper # 4813
- Session: 802. Chemical Biology and Experimental Therapeutics: Poster III

APTO-253 is a clinical-stage small molecule therapeutic that acts through induction of the innate tumor suppressor gene Krüppel-like factor 4 (KLF4), and suppression of KLF4 gene expression has been reported as a key driver in the leukemogenesis of AML and subsets of other hematologic diseases. Earlier this year, Aptose researchers reported the ability of APTO-253 to induce cell death, or apoptosis, in multiple blood cancer cell lines including AML, as well as in vitro synergy with various classes of conventional approved therapies for AML or myelodysplastic syndromes (MDS).

In a prior single-agent, Phase 1 clinical study, APTO-253 demonstrated antitumor activity and a robust safety profile in patients with solid tumors.

APTO-253 is currently being evaluated in 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.

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 additive or synergistic efficacy with existing anti-cancer therapies and regimens without overlapping toxicities. For further information, please visit www.aptosebiosciences.com.

Forward Looking Statements

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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