

November 5, 2015



Beat AML & Aptose Biosciences Present Data for APTO-253 at the 57th American Society of Hematology (ASH) Annual Meeting

SAN DIEGO and TORONTO, Nov. 5, 2015 (GLOBE NEWSWIRE) -- Aptose Biosciences Inc. (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 57th American Society of Hematology (ASH) Annual Meeting and Exposition being held December 5-8, 2015, in Orlando, FL.

Researchers from the Knight Cancer Institute at Oregon Health & Science University (OHSU) will present data demonstrating the ability of APTO-253 to kill acute myeloid leukemia (AML) cells in the majority of patient samples, with a trend toward correlation with baseline KLF4 expression level. Moreover, APTO-253 demonstrated enhanced killing ability of AML cells in patient samples when combined with either the BET inhibitor JQ1 or with the FLT3 inhibitor quizartinib. The studies were led by OHSU Knight Cancer Institute researcher Jeffrey Tyner, Ph.D., an assistant professor in the Department of Cell, Developmental & Cancer Biology in the OHSU School of Medicine. Beat AML is a collaborative research initiative spearheaded by the OHSU Knight Cancer Institute and The Leukemia & Lymphoma Society.

"These findings further support the ability of APTO-253, a first-in-class KLF4 inducer, to serve as a targeted treatment for AML," commented William G. Rice, Ph.D., Chairman and Chief Executive Officer of Aptose. "Indeed, this emboldens our clinical efforts to develop APTO-253 for use as a single agent and in combination therapies to treat AML and other hematologic malignancies and achieve favorable outcomes with lesser side effects."

The abstract is also available in the online edition of *Blood*, the official Journal of the American Society of Hematology and on the ASH conference website:

Abstract Details

- Title: "*Broad Activity of Apto-253 in AML and Other Hematologic Malignancies Correlates with KLF4 Expression Level*"
- Date/Time: Saturday, December 5, 2015, 5:30-7:30 p.m.
- Location: Orange County Convention Center, Hall A
- Abstract #: 83676
- Session: 616. Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Poster I

Additional Abstract

An additional abstract describing the favorable pharmacokinetics and safety profile of APTO-253 was accepted for publication in the ASH online conference materials, in the December 3 edition of *Blood* and in the ASH and *Blood* abstract archive.

- Title: "*Clinical Pharmacokinetics of APTO-253 Support its Use as a Novel Agent for the Treatment of Relapsed or Refractory Hematologic Malignancies*"
- Abstract #: 4934
- Location: Publication

About APTO-253

APTO-253 is a clinical-stage small molecule targeted agent that acts through induction of the innate tumor suppressor gene Krüppel-like factor 4 (KLF4). Suppression of KLF4 gene expression has been reported as a key driver in the leukemogenesis of AML and subsets of other hematologic diseases. Aptose researchers have reported the ability of APTO-253 to upregulate KLF4 expression and 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).

At last year's ASH meeting, Aptose presented data that demonstrated APTO-253's robust safety profile and potent activity as a single agent and administered in combination with the chemotherapeutic drug azacitadine. 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 Biosciences

Aptose Biosciences is a clinical-stage biotechnology company committed to discovering and developing personalized therapies addressing unmet medical needs in oncology, with a particular focus on hematologic malignancies. 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 APTO-253 as a first-in-class KLF4 inducer, the ability of APTO-253 to act as a targeted treatment for AML, APTO-253 being used as a single agent or in combination therapies to treat AML and other hematologic malignancies, that treatment with APTO-253 could achieve favorable outcomes with lesser side effects for cancer patients and the Company'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 forward looking statements 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 conditions; 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.

CONTACT: For further information, please contact:

Aptose Biosciences
Greg Chow, CFO
650-718-5028
gchow@aptose.com

BCC Partners
Karen L. Bergman or Susan Pietropaolo
650-323-1717 or 845-638-6290
kbergman@bccpartners.com or spietropaolo@bccpartners.com

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