June 8, 2016

Aptose Biosciences and CrystalGenomics Announce Exclusive Agreement for Non-Covalent BTK / FLT3 / AURK Inhibitor

TORONTO and SEOUL, South Korea, June 08, 2016 (GLOBE NEWSWIRE) -- Aptose Biosciences Inc. (NASDAQ:APTO) (TSX:APS) and CrystalGenomics, Inc. (KOSDAQ:083790) today announced an exclusive global option and license agreement focused on the development of CG026806 (CG'806), a first-in-class, highly potent, non-covalent small molecule inhibitor of the Bruton's tyrosine kinase (BTK), FMS-like tyrosine kinase 3 (FLT3) and the Aurora kinases (AURK). Further to enacting the agreement, Aptose expects to undertake Investigational New Drug (IND) enabling studies immediately, and, if it exercises its option under the agreement, to initiate a Phase 1 clinical trial by mid 2017.

The potential option exercise would occur prior to submission of an IND application in the U.S. Upon exercise of the option, Aptose will own global rights to develop and commercialize the program outside of Korea and China – the Licensed Territory. Total deal value is up to $303 million USD, inclusive of development, regulatory and commercial-based milestones. CrystalGenomics will also receive a single-digit royalty on sales in the Licensed Territory.

CG'806 has the potential to serve as a transformational agent for multiple forms of cancer, particularly those resistant to current BTK inhibitors or those that possess the FLT3-ITD alteration. BTK plays a critical role in B-cell hematologic malignancies, such as chronic lymphocytic leukemia (CLL) and mantle cell lymphoma (MCL), and certain autoimmune diseases. FLT3, including the Internal Tandem Duplication (ITD), a mutation of the FLT3 gene, occurs in approximately 30-35% of patients with acute myeloid leukemia (AML). Aurora kinases participate in the epigenetic phosphorylation of histones and are key drivers in a series of hematologic malignancies and solid tumors.

"CG'806 offers a unique capacity through a non-covalent, reversible mechanism to inhibit wild type and mutant forms of the validated BTK, FLT3 and AURK targets, but with the discretion to offer a robust safety profile," commented Avanish Vellanki, Senior Vice President and Chief Business Officer of Aptose. "Indeed, we are impressed by the ability of once-daily oral dosing of CG'806 to demonstrate tumor eradication in the absence of toxicity in murine xenograft models of human hematologic malignancies," added William G. Rice, Ph.D., Chairman, President and Chief Executive Officer of Aptose.

"We are excited to work with the Aptose team, which is uniquely qualified to accelerate development of our BTK/FLT3/AURK inhibitors, including our lead compound CG'806," said Joong Myung Cho, Ph.D., Chairman and Chief Executive Officer of CrystalGenomics. "With a demonstrated commitment to high scientific and development standards, Aptose and its clinical advisors recognize the potential of this class of anticancer compounds and will make

clinical development a priority."

"The *in vivo* potency of CG'806 shows unprecedented potential," said Michael Andreeff, M.D., Ph.D., Professor of Medicine, Department of Leukemia, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center (MDACC), and a member of the Aptose Scientific Advisory Board. "The combination of this candidate's potency with a stellar *in vivo* safety profile gives us enthusiasm for CG'806 as a therapeutic option for patients with AML, CLL and other malignancies."

About CrystalGenomics

CrystalGenomics, Inc. is a commercial stage biopharmaceutical company focused in the structure-based drug discovery and development of novel therapeutics in unmet medical need areas of inflammation, oncology, and infectious disease. In addition to several drug programs in the R&D pipeline, the Company has one drug on the market for osteoarthritis and, has recently added commercial manufacturing capabilities through acquisitions. CrystalGenomics, Inc. is listed on KOSDAQ (083790).

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 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. Aptose Biosciences Inc. is listed on NASDAQ under the symbol APTO and on the TSX under the symbol APS.

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 the exclusive global option and license agreement between Aptose and CrystalGenomics and the potential exercise of the option under the agreement by Aptose, the potential clinical development of CG'806 and its therapeutic effects, that the Aptose team is uniquely qualified to accelerate the development of CG'806 as well as 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", 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 conditions; uncertainty in the length of the clinical hold and the conditions the FDA may impose to lift it; potential loss of API; inability of new manufacturers to produce acceptable batches of cGMP clinical supplies 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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