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Aptose Biosciences Recruits Stephen B. Howell, M.D. to Act in the Capacity of Chief Medical Officer

SAN DIEGO and TORONTO, Sept. 8, 2014 /PRNewswire/ - Aptose Biosciences Inc. (TSX: APS), a clinical-stage company developing new therapeutics and molecular diagnostics that target the underlying mechanisms of cancer, today announced that Stephen B. Howell, M.D. will act in the capacity of Chief Medical Officer. Dr. Howell joins the Aptose team as a medical consultant to provide expert clinical guidance to the company.

"Dr. Howell brings to Aptose deep industry and academic experience in translational research and oncology drug development. His expertise will be invaluable as we set the course for Phase 2 clinical trials for APTO-253 in acute myeloid leukemia and myelodysplastic syndromes," said William G. Rice, Ph.D., Chairman, President and Chief Executive Officer. "We are fortunate to have built an extraordinarily talented clinical and medical affairs leadership team and are excited to move APTO-253 into later stage development."

Dr. Howell is a renowned medical oncologist and leader in the development of novel drugs and drug delivery systems for the treatment of cancer and in the discovery of the molecular and genetic mechanisms underlying drug resistance. He holds the position of Distinguished Professor of Medicine, Division of Hematology-Oncology at the University of California San Diego Moores Cancer Center, San Diego, California, where he also serves as the co-leader of the Solid Tumor Therapeutics Program and directs the Cancer Therapeutics Training Program. Dr. Howell is an expert in experimental therapeutics and in the conduct of clinical trials, with more than 35 years as a principal investigator in translational research and investigator- and industry-initiated research at the preclinical and clinical levels. He managed the Phase 1 Clinical Trials Program at the Moores UCSD Cancer Center and executed Phase 2 and Phase 3 trials in hematologic and solid tumor malignancies, including studies for DepoCyt® (cytarabine liposome injection), a drug developed in his laboratory. In addition, he was instrumental in the clinical and pharmacological evaluation of multiple nucleoside agents, doxorubicin, allopurinol and dipyridamole. Over the course of his career, Dr. Howell has founded three pharmaceutical companies and has advanced technology invented in his laboratory through the clinic and to the market. He is the author of more than 340 scientific papers and has held numerous appointments to medical societies, as well as scientific advisory and editorial boards. In addition, he has served as a member of the board of directors of several biopharmaceutical companies and as a member and chairman of Data Safety Monitoring Committees for large-scale industry trials. Dr. Howell received his B.A. from the University of Chicago and M.D. from Harvard Medical School. He completed his internship and residency in internal medicine at Massachusetts General Hospital, and received training at the National Institutes of Health before returning to the Harvard system to complete a fellowship in medical oncology at Dana-Farber Cancer Institute in Boston.

About APTO-253

APTO-253 (formerly LOR-253) is a novel small molecule that has demonstrated potent anti-tumor activity in cancer cells via induction of the tumor suppressor gene Krüppel-like factor 4 (KLF4) and expression of p21, resulting in cell cycle arrest and apoptosis (programmed cell death). Nonclinical pharmacology studies demonstrated *in vivo* anti-tumor activity against solid tumors and hematologic cancers, and a Phase 1 clinical study in patients with advanced or metastatic solid tumors demonstrated the agent to be safe, well-tolerated and to exert promising clinical activity.

A vast majority of patients with acute myeloid leukemia (AML) exhibit down-regulation of KLF4 expression, which is directly associated with leukemogenic events, or the onset of leukemia. In addition to AML, silencing of KLF4 has been reported to contribute to adult T-cell leukemia, lymphoma, multiple myeloma and high-risk MDS. Induction of KLF4 expression may therefore prove an effective therapeutic option in these patient populations. Aptose is planning to commence in 2014 a dose-escalating Phase 1b clinical study of APTO-253, followed by two disease-specific expansion studies planned in adults with hematologic malignancies in which KLF4 suppression is reported to be operative.

About Aptose Biosciences

Aptose Biosciences (formerly Lorus Therapeutics Inc.) 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.

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 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.

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