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Aptose's Tuspetinib Triple Drug Therapy Featured at the 2025 ASH Annual Meeting; High Rate of Frontline Clinical Responses Continues Across AML Populations

- *TUS+VEN+AZA triplet frontline therapy demonstrates high rates of efficacy and MRD-negative remissions in newly diagnosed AML patients with diverse mutations*
- *Safety continues to be a notable hallmark of TUS-based therapies*
- *100% response rate (CR/CRh) at the two higher dose levels (80 and 120 mg TUS dose)*
- *CR/CRh observed in FLT3 wildtype subjects, representing ~70% of AML patients*
- *CR/CRh observed in AML with TP53/complex karyotype, RAS, and MDS-related mutations*

SAN DIEGO and TORONTO, Dec. 06, 2025 (GLOBE NEWSWIRE) -- Aptose Biosciences Inc. ("Aptose" or the "Company") (NASDAQ: APTO, TSX: APS), a clinical-stage precision oncology company developing highly differentiated targeted agents to treat hematologic malignancies, today featured clinical data for its lead compound tuspetinib (TUS) combined with standard dosing of venetoclax (VEN) and azacitidine (AZA) in a poster presentation at the 67th American Society of Hematology (ASH) Annual Meeting in Orlando, FL. Updated data from patients in the TUSCANY trial across all three cohorts, 40 mg, 80 mg or 120 mg TUS dose in TUS+VEN+AZA, reveal promising clinical safety and antileukemic activity and support the use of TUS in combination with standard of care treatment across a broad range of AML populations, including those with adverse mutations regardless of *FLT3* mutation status.

Poster title*: "TUSCANY study demonstrates safety and efficacy of tuspetinib plus standard of care venetoclax and azacitidine in patients with newly diagnosed AML ineligible for induction chemotherapy"*

Key Findings and Messages:

- In newly diagnosed AML patients, TUS+VEN+AZA shows promising safety, tolerability and resilient efficacy, including MRD-negative remissions across a broad mutational spectrum
- High-quality clinical responses (CR/CRh):

    - 90% across 40, 80 and 120 mg dose levels
    - 100% at the higher 80 mg and 120 mg dose levels
    - Observed in FLT3-WT, FLT3-ITD, and NPM1c genetic subgroups
    - Observed in biallelic TP53/complex karyotype and RAS adverse genetic subgroups
    - Observed in AML with MDS-related mutations
- MRD negativity: 78% by central flow cytometry in responding subjects
- TUS targets VEN resistance mechanisms; inhibits kinase-driven abnormal signaling
- Two subjects transitioned to stem cell transplantation and both returned for TUS maintenance
- TUS+VEN+AZA triplet therapy was well tolerated with no dose-limiting toxicities (DLTs) across all evaluable TUS dose levels
    - No DLTs including no prolonged myelosuppression for subjects in remission in Cycle 1
    - No drug-related deaths, differentiation syndrome, QTc prolongation, or CPK elevation reported
    - 8/10 evaluable subjects experienced red cell and platelet transfusion independence for > 8 weeks after their best response
    - Febrile neutropenia was reported in 2 subjects (16.7%), with 1 subject related to TUS
- At the recently enrolled 160 mg dose level, preliminary findings show patients achieving early blast clearance with MRD-negativity and formal responses in the first few weeks of treatment (not included in poster data cut).

“Tuspetinib, as part of a triple drug therapy, continues to perform well, achieving 100% clinical response in the two higher doses we have evaluated to date,” said Rafael Bejar, MD, PhD, Chief Medical Officer at Aptose. “We recently commenced treating patients at the highest dose level of 160 mg TUS and have already achieved early responses. With no dose-limiting toxicities and activity across diverse mutations, TUS+VEN+AZA targets AML’s greatest unmet needs and largest populations.”

The ASH poster presentation is available here.

About Tuspetinib

Aptose’s lead compound tuspetinib is a convenient once daily oral agent that potently targets SYK, mutated and wild type forms of FLT3, mutated KIT, JAK1/2, and RSK2 kinases, while avoiding many typical toxicity concerns observed with other agents. The ongoing TUSCANY triplet Phase 1/2 study is designed to test various doses and schedules of TUS in combination with standard dosing of azacitidine and venetoclax in newly diagnosed patients with AML who are ineligible to receive induction chemotherapy. Data from the first three dose cohorts demonstrate safety, CRs and minimal residual disease (MRD) negativity across patients with diverse mutations. The early data showed that 9 out of 10 patients responded to the TUS triplet therapy, with 100% complete remission (CR/CRh) achieved in the 80mg and 120mg cohorts. Notably, patients with difficult-to-treat mutations in *TP53*, *RAS* and *FLT3* genes also achieved a 100% CR/CRh rate.

About Aptose

Aptose Biosciences is a clinical-stage biotechnology company committed to developing precision medicines 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 without overlapping toxicities. The Company's lead clinical-stage compound tuspetinib (TUS), is an oral kinase inhibitor that has demonstrated activity as monotherapy and in combination therapy in patients with relapsed or refractory acute myeloid leukemia (AML) and is being developed as a frontline triplet therapy in newly diagnosed AML. For more information, please visit www.aptose.com.

Forward Looking Statements

This press release may contain forward-looking statements within the meaning of Canadian and U.S. securities laws, including, but not limited to, statements relating to the therapeutic potential of tuspetinib, its clinical development and safety profile including its tolerability and resilient efficacy, 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 and to continue as a going concern; 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; 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.

For further information, please contact:

Aptose Biosciences Inc.

Susan Pietropaolo
Corporate Communications & Investor Relations
201-923-2049
spietropaolo@aptose.com

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