Synta Announces STA-9090 Results Published in Journal "Blood" Demonstrating Potent In Vitro and In Vivo Activity in AML

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- STA-9090 inhibits WT1, a key driver of leukemias -
- STA-9090 enhances activity of chemotherapy in leukemia cells -
- STA-9090 currently being studied in two AML clinical trials -

LEXINGTON, Mass., Jul 27, 2010 (BUSINESS WIRE) -- Synta Pharmaceuticals Corp. (NASDAQ: SNTA) today announced that results pre-published in the online edition of the journal *Blood* show that STA-9090 causes degradation of the Wilms' tumor 1 (WT1) protein and its downstream target proteins, c-Myc and Bcl-2, key factors in acute myeloid leukemia (AML) and certain other leukemias; and that treatment with STA-9090 showed strong activity in both *in vitro* and *in vivo* models of AML both as single agent and in combination with chemotherapy. STA-9090, a potent, second-generation, small-molecule Hsp90 inhibitor, is currently being evaluated in two clinical trials in AML and other hematologic cancers.

"AML is a disease with very limited treatment options, which have not changed in decades, and an urgent medical need," said Vojo Vukovic, M.D., Ph.D., Senior Vice President and Chief Medical Officer, Synta Pharmaceuticals. "The results presented in *Blood* provide insight into both the underlying biology of what drives AML and the potential role that STA-9090 may play in treating this disease. We look forward to fully evaluating the role STA-9090 may play in AML and other hematologic indications."

"WT1 gene expression is known to be a prognostic factor that correlates with survival in myeloid leukemia patients," said hematologist Swaminathan Padmanabhan, M.D., the Principal Investigator of this preclinical work. Dr. Padmanabhan is an assistant professor with the Cancer Therapy & Research Center (CTRC) at The University of Texas Health Science Center at San Antonio and serves as director of hematological malignancies for the CTRC Institute for Drug Development. "Our work shows for the first time that this important oncoprotein directly interacts with and is regulated by the Hsp90 chaperone complex. In these studies, inhibition of Hsp90 by STA-9090 potently down-regulated WT1 expression and also enhanced the activity of etoposide, a topoisomerase II inhibitor that is used in the treatment of hematologic and solid tumor cancers. These results suggest a possible role for STA-9090 in the treatment of leukemias both as a single agent and in combination with other anticancer agents."

In *in vitro* experiments, STA-9090 reduced the expression of WT1 in a dose-dependent manner and induced apoptosis in myeloid leukemia cells, and the combination of STA-9090 and etoposide displayed enhanced cytotoxicity relative to either agent alone. *In vivo* results demonstrated inhibition of Hsp90 by STA-9090 blocked tumor growth in multiple xenograft tumor models using leukemia cells expressing WT1. Importantly, WT1 down-regulation by STA-9090 was also observed in primary myeloid leukemic blast cells isolated from AML patients.

The article can be found at http://bloodjournal.hematologylibrary.org/cgi/content/abstract/blood-2009-10-247239v1.

About STA-9090

STA-9090 is a potent, second-generation, small-molecule Hsp90 inhibitor, with a chemical structure unrelated to the first-generation, ansamycin family of Hsp90 inhibitors (e.g., 17-AAG or IPI-504). In preclinical studies, STA-9090 has shown potency up to 100 times greater than the first-generation Hsp90 inhibitors as well as activity against a wider range of kinases. In *in vitro* and *in vivo* models, STA-9090 has shown potent activity against a wide range of cancer types, including lung, prostate, colon, breast, gastric, pancreatic, gastrointestinal stromal tumors (GIST), melanoma, AML, chronic myeloid leukemia, Burkitt's lymphoma, diffuse large B-cell lymphoma, and multiple myeloma - as well as potent activity against cancers resistant to imatinib (Gleevec$^{(R)}$), sunitinib (Sutent$^{(R)}$), erlotinib (Tarceva$^{(R)}$), and dasatinib (Sprycel$^{(R)}$).

STA-9090 is currently being evaluated in eight clinical trials: four Phase 2 trials in solid tumor cancers - non-small cell lung cancer, gastrointestinal stromal tumors, colon cancer, gastric cancer; two trials in hematologic cancers; and two Phase 1 solid tumor trials. Trials in colon cancer and gastric cancer are investigator-sponsored. Information on clinical trials with STA-9090 can be found at www.clinicaltrials.gov.

About Hsp90

Hsp90 is a chaperone protein required for the proper folding and activation of other cellular proteins, particularly kinases. Many of these "client proteins" of Hsp90 - such as AKT, BCR-ABL, BRAF, KIT, MET, EGFR, FLT3, HER2, PDGFRA, VEGFR - have been shown to be critical to cancer cell growth, proliferation, and survival and are the targets of clinically validated cancer drugs. In preclinical studies, inhibiting Hsp90 causes the degradation of multiple client proteins and leads to cancer cell death. Because mutated kinases which no longer respond to treatment with kinase inhibitors remain dependent on Hsp90 for their activity, inhibiting Hsp90 offers the potential for treating cancers that have become resistant to targeted therapies such as kinase inhibitors.

About Synta Pharmaceuticals

Synta Pharmaceuticals Corp. is a biopharmaceutical company focused on discovering, developing, and commercializing small molecule drugs to extend and enhance the lives of patients with severe medical conditions, including cancer and chronic inflammatory diseases. Synta has a unique chemical compound library, an integrated discovery engine, and a diverse pipeline of clinical- and preclinical-stage drug candidates with distinct mechanisms of action and novel chemical structures. All Synta drug candidates were invented by Synta scientists using our compound library and discovery capabilities. For more information, please visit www.syntapharma.com.

Safe Harbor Statement

This media release may contain forward-looking statements about Synta Pharmaceuticals Corp. Such forward-looking statements can be identified by the use of forward-looking terminology such as "will", "would", "should", "expects", "anticipates", "intends", "plans", "believes", "may", "estimates", "predicts", "projects", or similar expressions intended to identify forward-looking statements. Such statements, including statements relating to the timing, developments and

progress of our STA-9090 clinical program, reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such forward-looking statements, including those described in "Risk Factors" of our Form 10-K for the year ended December 31, 2009 as filed with the Securities and Exchange Commission. Synta undertakes no obligation to publicly update forward-looking statements, whether because of new information, future events or otherwise, except as required by law.

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