Synta Announces Positive Results in Phase 2 NSCLC Trial for STA-9090 Support Advancing Trial to Second Stage

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- Pre-Specified Efficacy Criteria Achieved in Lung Cancer Trial -

LEXINGTON, Mass., May 24, 2010 (BUSINESS WIRE) --Synta Pharmaceuticals Corp. (NASDAQ: SNTA) today announced that clinical activity seen in the first stage of its trial for STA-9090 in Stage IIIB and Stage IV patients with non-small cell lung cancer (NSCLC), support advancing to the second stage of the trial. This result was achieved in the first pre-defined patient cohort to complete enrollment. STA-9090 is a potent small molecule Hsp90 inhibitor with a novel chemical structure that has shown strong activity in a broad range of solid tumor and hematologic cancer models including lung, prostate, colon, breast, gastric, pancreatic, melanoma, AML, and CML.

"It is particularly encouraging that the pre-specified efficacy criteria have been achieved so early with this patient population," said Vojo Vukovic, M.D., Ph.D., Senior Vice President and Chief Medical Officer, Synta Pharmaceuticals. "The level of tumor shrinkage and disease control seen following treatment with STA-9090 as a single agent, as well as the favorable safety profile, suggest promising potential for STA-9090 in NSCLC. We are excited to advance to the second stage of this trial, and expect to discuss additional details and results later this year."

STA-9090 is currently being evaluated in eight ongoing clinical trials, including Phase 2 trials in NSCLC, gastrointestinal stromal tumors, colon cancer, gastric cancer, and AML. Synta expects a total of up to 15 trials for STA-9090 by the end of 2010 and is targeting initiating one or more Phase 3 registration trials for STA-9090 in 2011.

Preliminary results from the Phase 1 solid tumor trials for STA-9090 will be presented at the 2010 American Society for Clinical Oncology (ASCO) Annual Meeting June 4-8.

Scientific Background for STA-9090 in NSCLC

Emerging evidence supports the view of non-small cell lung cancer as a group of malignant diseases driven by distinct genetic abnormalities. Hsp90 is recognized as a potential therapeutic target in NSCLC due to its role in regulating numerous oncogenes that are believed to play an important role in the cause and development of NSCLC.

Earlier this year, results were presented by Synta collaborators at the Dana-Farber Cancer Institute showing that STA-9090 potently inhibited cell proliferation in 24 out of 24 human NSCLC lines tested, irrespective of EGFR, HER2 or KRAS mutational status, including models highly resistant to treatment, such as the EGFR T790M mutation. Analysis of protein expression showed that STA-9090 causes substantial down-regulation of client proteins relevant to lung cancer growth and proliferation including AKT, EGFR, MET, HER2, CDK4, and RAF1.[(1)]

Also presented recently were results showing that STA-9090 enhanced the activity of agents

commonly used to treat advanced lung cancer, including the taxanes paclitaxel and docetaxel; erlotinib (Tarceva(R)); and bevacizumab (Avastin(R)).[2]

Study Design in NSCLC

The open-label, multi-center Phase 2 study is designed to evaluate the efficacy and safety of STA-9090 in patients with stage IIIB or IV non-small cell lung cancer who have received prior treatment with either an approved tyrosine kinase inhibitor or chemotherapy. The trial is enrolling up to approximately 70 patients in a two-stage design. Patients are stratified into three cohorts based on certain genetic characteristics of their cancer. STA-9090 is administered as an intravenous infusion once per week for three consecutive weeks, followed by a one week rest period (four week cycle); patients continue on treatment until disease progression. The primary objective of the trial is to assess efficacy based on progression-free survival; additional objectives include assessing tumor response rates, overall survival, safety, and the impact of treatment with STA-9090 on certain biomarkers.

About STA-9090

STA-9090 is a potent, synthetic, 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, melanoma and certain hematologic cancers - 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 Non-Small Cell Lung Cancer

Lung cancer is the leading cause of cancer-related mortality in the United States. The American Cancer Society estimates there were 219,440 new cases and 159,390 deaths from lung cancer in the United States alone in 2009, with 80-90% of lung cancers of the non-small cell type. The

five-year relative survival rate varies from 16% for patients diagnosed with regional metastatic stage disease to 2% for patients diagnosed with distant metastatic stage disease. (Source and further information: American Cancer Society, http://www.cancer.org.)

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.

References

1. Shapiro, G. et al.: Synergy between the novel Hsp90 inhibitor STA-9090 and taxanes in preclinical models of NSCLC*, AACR-IASLC Joint Conference on Molecular Origins of Lung Cancer, January 12, 2010.*

2. Blackman, R. et al.: Hsp90 inhibitor STA-9090 enhances the activity of standard of care therapies in erlotinib-sensitive and -resistant NSCLC models, *101st AACR Annual Meeting, April 19, 2010.*

SOURCE: Synta Pharmaceuticals Corp.

Synta Pharmaceuticals Corp.
Rob Kloppenburg, 781-541-7125