Sunesis Pharmaceuticals Reports Preliminary SNS-595 Activity in Ovarian Cancer Clinical Trial at AACR-NCI-EORTC International Conference

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Criteria to Advance SNS-595 to Next Stage of Phase 2 Trial Achieved

SOUTH SAN FRANCISCO, Calif., Oct 23, 2007 /PRNewswire-FirstCall via COMTEX News Network/ -- /ADVANCE FOR RELEASE AT 3:30 P.M. EDT, TODAY/ -- Sunesis Pharmaceuticals, Inc. (Nasdaq: SNSS), a clinical-stage biopharmaceutical company developing novel anticancer therapeutics, today announced positive preliminary results from the first stage of the company's ongoing Phase 2 clinical trial of its lead product candidate, SNS-595, in platinum-resistant ovarian cancer patients.

Administered as a single agent, SNS-595 demonstrated anti-tumor activity, with 88 percent (15 of 17) of evaluable patients having best responses of stable disease or better, including two partial responses (PRs). Based on these results, SNS-595 has achieved the pre-specified criterion (two or more responses) for proceeding to Stage 2 of this trial.

Patients received SNS-595 once every three weeks by IV infusion for up to eight cycles. SNS-595 was generally well tolerated at the current dosing level among nineteen patients with sufficient follow-up to yield safety data. Incidence of febrile neutropenia was 11 percent (2 of 19) among these patients. In addition, five percent (1 of 19) of these patients experienced grade 3/4 nausea and 11 percent (2 of 19) of these patients experienced grade 3/4 fatigue.

"SNS-595 appears to be a promising novel agent for platinum resistant ovarian cancer," said Ursula Matulonis, M.D., Director of Medical Gynecologic Oncology at the Dana-Farber Cancer Institute. "This patient population remains underserved, and the initial stable disease and responses achieved thus far are encouraging. I look forward to seeing the continued progress of SNS-595 in this indication."

Of the 15 evaluable patients who achieved stable disease or PRs, eight remain on study and are continuing to receive additional cycles of treatment. Of note, four of the patients with measurable tumor shrinkage, including the two patients with PRs, previously failed prior platinum-containing regimens and treatment with doxorubicin HCl liposome injection (Doxil(R)). Of the 2 patients with PRs, one has received eight cycles of treatment and continues on study. The other patient progressed within 60 days of initial response.

Sunesis plans to enroll approximately 55 patients in this clinical trial. Thirty-one patients have been enrolled to date, and Sunesis expects to complete enrollment and present additional data in 2008.

"We are pleased to report SNS-595's early, yet positive, demonstration of clinical activity. We have met the pre-specified criterion to advance this compound to the second stage of our Phase 2 clinical trial, by showing sufficient evidence of anti-tumor activity," said Daniel C. Adelman, M.D., Senior Vice President, Development and Chief Medical Officer of Sunesis. "Additionally, the data suggests that SNS-595 may have potentially meaningful activity among platinum-resistant ovarian cancer patients who have also failed treatment with Doxil."

In parallel with the Phase 2 clinical trial, a non-clinical study was conducted to evaluate the activity of SNS-595 against 17 archived ovarian tumor biopsy specimens in the Extreme Drug Resistance (EDR(R)) cell proliferation assay. SNS-595 activity was compared to doxorubicin, etoposide and carboplatin -- agents used commonly in the treatment of ovarian cancer. Results from this study demonstrate that SNS-595 is a potent inhibitor of ovarian tumor cell growth, with activity comparing favorably to these agents. Further, none of the ovarian tumor samples showed any resistance to SNS-595.

These data were presented today during Poster Session A -- Clinical Trials at the AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics in a poster titled "A Phase 2 trial of SNS-595 in women with platinum refractory epithelial ovarian cancer," Abstract No. A158.

On Wednesday, October 24, 2007 at the AACR-NCI-EORTC meeting, Sunesis will present additional non-clinical data in a poster titled "SNS-595 potentiates the in vivo activity of carboplatin, cisplatin and gemcitabine in solid tumor xenografts," Abstract No. B285. This poster presentation will take place in Poster Session B -- Other Small Molecule Therapeutics.

About SNS-595

SNS-595 is a replication-dependent DNA damaging agent that causes irreversible G2 arrest and rapid apoptosis. A secondary mechanism for SNS-595 is a unique inhibition of topoisomerase II that causes highly selective DNA damage.

Data reported today build upon positive results from non-clinical studies, and from Sunesis' dose-escalating Phase 1 clinical trial of SNS-595 in which an ovarian cancer patient with advanced disease achieved a PR. In addition to the Phase 2 clinical trial in ovarian cancer patients, SNS-595 is currently being evaluated in two Phase 1b acute leukemia clinical trials. In clinical trials conducted to date, SNS-595 has been generally well tolerated and has shown objective responses in both solid and hematological tumor types. In non-clinical evaluations, SNS-595 demonstrates broad and potent activity in xenograft, syngeneic and drug-resistant models.

About Ovarian Cancer

In the United States, ovarian cancer remains the leading cause of death from gynecologic malignancies and is the fifth leading cause of cancer death overall in women behind lung, breast, colorectal and pancreatic cancers. According to the American Cancer Society, in 2007 there will be an estimated 22,430 new cases and more than 15,000 deaths from ovarian cancer in the U.S. alone. The front-line treatment for ovarian cancer is typically a combination of a taxane and a platinum drug, and an initial response rate of approximately 70 percent to this type of chemotherapy regimen can be anticipated. In spite of initial response rates, recurrence rates among ovarian cancer patients are high, and overall long-term survival has not changed significantly over the past 40 years, with five-year survival rates at less than 30 percent.

About Sunesis Pharmaceuticals

Sunesis is a clinical-stage biopharmaceutical company focused on the discovery, development and commercialization of novel small molecule therapeutics for oncology and other serious diseases. Sunesis has built a broad product candidate portfolio through internal discovery and in-licensing of novel cancer therapeutics. Sunesis is advancing its product candidates through in-house research and development efforts and strategic collaborations with leading pharmaceutical and biopharmaceutical companies. For additional information on Sunesis Pharmaceuticals, please visit http://www.sunesis.com.

Safe Harbor Statement

This press release contains forward-looking statements including without limitation statements related to the potential safety and efficacy and commercial potential of SNS-595, planned additional clinical testing and development efforts and the anticipated timing of the completion of enrollment in the ongoing Phase 2 clinical trial and the announcement of clinical results. Words such as "look forward," "suggests," "may," "plans," "expects," "appears" and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon Sunesis' current expectations. Forward-looking statements involve risks and uncertainties. Sunesis' actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, the risk that Sunesis' drug discovery and development activities could be halted significantly or delayed for various reasons, the risk that Sunesis' clinical trials for SNS-595 may not demonstrate safety or efficacy or lead to regulatory approval, the risk that preliminary data and trends may not be predictive of future data or results, the risk that Sunesis' preclinical studies and clinical trials may not satisfy the requirements of the FDA or

other regulatory agencies, risks related to the conduct of Sunesis' clinical trials and manufacturing of SNS-595 and risks related to Sunesis' need for additional funding. These and other risk factors are discussed under "Risk Factors" and elsewhere in Sunesis' annual report on Form 10-K for the year ended December 31, 2006 and other filings with the Securities and Exchange Commission. Sunesis expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in the company's expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based.

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