Sunesis Pharmaceuticals Reports Positive Data From Studies of Two Anti-Cancer Agents, SNS-595 and SNS-032, at the 12th Congress of the European Hematology Association

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Interim Data from Phase 1 Clinical Trial of SNS-595 in Acute Leukemia Demonstrates Additional Clinical Activity

SOUTH SAN FRANCISCO, Calif., June 11, 2007 /PRNewswire-FirstCall via COMTEX News Network/ -- Sunesis Pharmaceuticals, Inc. (Nasdaq: SNSS) presented positive data from clinical studies of two of the company's anti-cancer product candidates, SNS-595 and SNS-032, at the 12th Congress of the European Hematology Association (EHA) in Vienna, Austria.

Interim Results from Sunesis' Phase 1 Study of SNS-595 in Acute Leukemias

Interim data from the company's ongoing Phase 1 clinical trial of SNS-595 in patients with relapsed and/or refractory acute leukemias continue to demonstrate SNS-595's anti-cancer activity when administered on either a weekly or twice-weekly schedule. To date, on the weekly schedule, five out of ten patients in the 50 mg/m2 and 60 mg/m2 dose cohorts experienced bone marrow blast reductions of more than 95 percent, including one complete remission with incomplete platelet recovery (CRp), one complete remission in a patient who demonstrated partial but incomplete recovery of normal hematopoietic blood elements (CRi) and one partial response (PR). Additionally, in the twice-weekly 40 mg/m2 dose cohort, one of three patients had blast reduction of more than 95 percent and that patient achieved a complete remission (CR). Several patients have gone on to receive and tolerate multiple courses of treatment with SNS-595.

The data presented from the Phase 1 clinical trial of SNS-595 show a correlation between plasma drug levels, modulation of a pharmacodynamic marker of biologic activity and clinical responses when treated with SNS-595. There is emerging evidence that clinical responses are observed when plasma concentrations of SNS-595 exceed and remain above a threshold level for approximately 20 hours per week of active treatment. The CR, CRp and CRi responses observed to date all had sustained blood levels above this threshold for at least 20 hours per week.

"We are pleased to report strong evidence supporting our hypothesis that administration of a threshold concentration of SNS-595 sustained over a defined period of time results in disease remissions in patients with acute leukemias," said Daniel C. Adelman, M.D., Sunesis' Senior Vice President, Research and Development. "Based on these recent data from our Phase 1 trial, a potential relationship between dose, pharmacodynamic target modulation and clinical response appears to be emerging which should allow us to select doses rationally for our planned Phase 2 clinical studies. With clinical responses observed to date in a study population with relapsed and/or refractory acute leukemias, we expect that SNS-595 will continue to show positive evidence of clinically meaningful activity as we escalate dosing in both treatment schedules to the MTD in this trial."

Dose escalation is in subsequent cohorts is continuing, with a 72 mg/m2 weekly dose cohort and a 50 mg/m2 twice-weekly cohort currently enrolling. Once the maximum tolerated dose (MTD) has been identified in each schedule, the study will enroll up to 10 additional patients at the MTD for each dosing regimen. Sunesis currently anticipates completing the clinical trial in time to report final results at the American Society of Hematology (ASH) meeting in Atlanta in December of this year.

SNS-595 is a replication-dependent DNA damaging agent that causes double- stranded DNA breaks, irreversible G2 arrest, and rapid apoptosis. The ongoing Phase 1 trial is being conducted by leading investigators at the H. Lee Moffitt Cancer Center & Research Institute, Johns Hopkins Hospital and the University of Texas, MD Anderson Cancer Center. The Phase 1 study is designed to assess the safety, tolerability and pharmacokinetics of SNS-595 and to establish a recommended Phase 2 dose for further testing among patients with acute leukemia. In addition, evidence from non-clinical studies demonstrates that SNS-595 and cytarabine act synergistically to ablate bone marrow in experimental models while

sparing normal hematopoietic recovery. Sunesis plans to initiate a Phase 1b clinical trial of SNS-595 in combination with cytarabine in patients with advanced acute leukemias in the third quarter of this year.

Non-clinical Results Compare CDK-Inhibitor SNS-032 to Flavopirodol

In a second presentation, Sunesis reported the results of studies evaluating its cyclin-dependent kinase (CDK)-inhibitor, SNS-032, which demonstrated that SNS-032 has greater selectivity and cellular potency to other CDK-targeting agents, such as flavopiridol and seliciclib. SNS-032 was analyzed against flavopiridol in a cancer cell line in bovine and human serum to assess mechanism of action and target modulation. SNS-032 was observed to be a more potent inhibitor of CDK9 and to possess greater pro-apoptotic activity than flavopiridol in human serum. In addition, mechanism-based, dose-dependent target modulation indicating CDK7 and CDK9 inhibition, as well as down-modulation of the survival signaling protein Mcl-1, was observed in peripheral blood cells obtained from patients treated with SNS-032 in a Phase 1 solid tumor clinical trial. These data further differentiate SNS-032 from flavopiridol.

"Results from these studies distinguish SNS-032 from other CDK inhibitors being tested in the clinic. Data presented on SNS-032 from comparative studies show this promising product candidate is hitting its molecular targets, including Mcl-1, in peripheral mononuclear cells taken from patients undergoing treatment in a dose-dependent fashion," said Dr. Adelman. "Our observations relating to SNS-032's mechanism support the ongoing Phase 1 clinical trial of SNS-032 in B-cell malignancies. This Phase 1 trial is designed to test our hypothesis that targeted inhibition of survival signaling in hematologic diseases will result in meaningful clinical benefit."

SNS-032 is a potent, selective inhibitor of CDKs 2, 7 and 9 that inhibits both cell cycle progression and transcription of anti-apoptotic signals key to the survival of B-cell malignancies. SNS-032 is currently being studied in a Phase 1 dose-escalation safety trial in patients with B-cell malignancies, including chronic lymphocytic leukemia, mantle cell lymphoma and multiple myeloma. Sunesis plans to present preliminary data from this ongoing Phase 1 trial by year's end.

Data on SNS-595 and SNS-032 were presented at the 12th Congress of European Hematology, organized by The European Hematology Association (EHA) on Saturday, June 9, 2007 in two poster sessions:

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-- Abstract #0489: "Pharmacokinetic/Pharmacodynamic Correlation with
   Responses in a Phase 1 Study of Patients with Relapsed/Refractory Acute
   Leukemias Treated with SNS-595"
-- Abstract #0742: "SNS-032 Exhibits Dose-Dependent Mechanism-Based
   Inhibition of CDK7 and CDK9 in Peripheral Blood Mononuclear Cells from
   Patients with Advanced Cancers Treated in an Ongoing Phase 1 Trial"
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About Sunesis' Oncology Programs

Sunesis has built a rich portfolio of product candidates in oncology focused on novel pathways and targets, including inhibition of the cell-cycle and survival signaling. Sunesis is currently conducting Phase 2 clinical trials in lung and ovarian cancer and a Phase 1 clinical trial in acute leukemias for its lead compound, SNS-595. SNS-032, a selective inhibitor of cyclin-dependent kinases 2, 7 and 9, is being evaluated in Phase 1 clinical trials in B-cell malignancies and in advanced solid tumors. The company's Aurora kinase inhibitor, SNS-314, is expected to begin Phase 1 clinical trials in mid-2007. In addition, Sunesis is developing novel small molecule inhibitors of Raf kinase and other oncology kinases in collaboration with Biogen Idec.

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 and its drug candidate pipeline,

including access to presentations made at this and other scientific meetings, please visit http://www.sunesis.com.

Forward-Looking Statements

This press release contains forward-looking statements, including without limitation statements related to the safety and potential efficacy of SNS-595 and SNS-032, planned additional clinical testing and the anticipated timing of the completion of clinical trials and the announcement of clinical results. Words such as "anticipates," "plans," "will," "optimistic," "is expected" 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 and SNS-032 may not demonstrate safety or efficacy or lead to regulatory approval, the risk that Sunesis' preclinical studies and clinical trials may not satisfy the requirements of the FDA or other regulatory agencies and risks related to the conduct of Sunesis' clinical trials and manufacturing of SNS-595 and SNS- 032. 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. http://www.sunesis.com.

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