Investor and Media Inquiries:
David Pitts
Argot Partners
212-600-1902

Eric Bjerkholt
Sunesis Pharmaceuticals Inc.
650-266-3717

Sunesis Issued Important European Patent Covering Vosaroxin Clinical Formulation

SOUTH SAN FRANCISCO, Calif., March 10, 2011 – Sunesis Pharmaceuticals, Inc. (NASDAQ: SNSSD) today announced that the European Patent Office (EPO) has granted European Patent No. 1725233, claiming the Company's pharmaceutical compositions of lead drug candidate vosaroxin. Sunesis is proceeding to validate this patent in multiple EPO member states. The resulting national patents would expire on March 14, 2025, but could be eligible for patent term extension beyond this date. A related United States patent was granted in 2010, and related patent applications are pending in other major markets throughout the world including Japan, Australia and Canada.

“This patent is an important new addition to our intellectual property estate, as it covers the formulation currently used in our pivotal Phase 3 VALOR trial in relapsed/refractory AML,” stated Daniel Swisher, Chief Executive Officer of Sunesis. “Supplementing protection for our vosaroxin development program with new patents having life out to 2025 increases not only the value of our AML franchise but also provides sufficient time for lifecycle evaluation of vosaroxin in other indications. We are pursuing a sophisticated and deliberate strategy to extend exclusive coverage in the vosaroxin patent estate beyond 2025. In addition to our granted patents, we have filed patent applications covering additional formulations, combination uses, dosing, manufacturing processes and composition of matter claims.”

About VALOR

VALOR is a Phase 3, randomized, double-blind, placebo-controlled, pivotal trial in patients with first relapsed or refractory AML. The trial is expected to enroll 450 evaluable patients at leading sites in the U.S., Canada, Europe, Australia and New Zealand. VALOR is currently open for enrollment and patients will be randomized one-to-one to receive either vosaroxin on days one and four in combination with cytarabine daily for five days, or placebo in combination with cytarabine. Additionally, the VALOR trial employs an innovative, adaptive trial design that allows for a one-time sample size adjustment by the DSMB at the interim analysis to maintain adequate power across a broad range of clinically meaningful and statistically significant survival outcomes. The trial's primary endpoint is overall survival. For more information on VALOR please visit www.valortrial.com.

About Vosaroxin (Formerly Voreloxin)

Vosaroxin, formerly known as voreloxin, is a first-in-class anticancer quinolone derivative, or AQD, a class of compounds that has not been used previously for the treatment of cancer. Vosaroxin both intercalates DNA and inhibits topoisomerase II, resulting in replication-dependent, site-selective DNA damage, G2 arrest and apoptosis. Sunesis is currently enrolling patients in the VALOR trial, a multinational, randomized, double-blind, placebo-controlled, pivotal Phase 3 clinical trial of vosaroxin in combination with cytarabine in a relapsed/refractory AML patient population.

About Acute Myeloid Leukemia

AML is a rapidly progressing cancer of the blood characterized by the uncontrolled proliferation of immature blast cells in the bone marrow. The American Cancer Society estimates that 12,330 new cases of AML were diagnosed and approximately 9,000 deaths from AML occurred in the U.S. in 2010. Additionally, it is estimated that prevalence of AML is approximately 25,000 in the U.S. AML is generally a disease of older adults, and the median age of a patient diagnosed with AML is about 67 years. AML patients with relapsed or refractory disease and newly diagnosed AML patients over 60 years of age with poor prognostic risk factors typically die within one year, resulting in an acute need for new treatment options for these patients.

About Sunesis Pharmaceuticals

Sunesis is a biopharmaceutical company focused on the development and commercialization of new oncology therapeutics for the treatment of solid and hematologic cancers. Sunesis has built a highly experienced cancer drug development organization committed to advancing its lead product candidate, vosaroxin, in multiple indications to improve the lives of people with cancer. For additional information on Sunesis Pharmaceuticals, please visit www.sunesis.com.

This press release contains forward-looking statements, including without limitation statements related to the prosecution of patent applications and Sunesis' ability to execute the pivotal Phase 3 VALOR trial in first relapsed or refractory AML. Words such as "provides," "expect," "look forward," "pursuing," "extend" 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, risks related to Sunesis' need for additional funding to fully finance the VALOR trial, the risk that Sunesis' development activities for vosaroxin could be halted or significantly delayed for various reasons, the risk that Sunesis' clinical studies for vosaroxin may not demonstrate safety or efficacy or lead to regulatory approval, the risk that data to date and trends may not be predictive of future data or results, the risk that Sunesis' nonclinical studies and clinical studies may not satisfy the requirements of the FDA or other regulatory agencies, risks related to the conduct of Sunesis' clinical trials, risks related to the manufacturing of vosaroxin, the risk of third party opposition to granted patents related to vosaroxin and the risk that Sunesis' proprietary rights may not adequately protect vosaroxin. These and other risk factors are discussed under "Risk Factors" and elsewhere in Sunesis' Quarterly Report on Form 10-Q for the quarter ended September 30, 2010 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.