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Sunesis Pharmaceuticals Reports Fourth Quarter and Full-Year 2011 Financial Results and Highlights

Sunesis to Host Conference Call Today at 10:30 AM Eastern Time

SOUTH SAN FRANCISCO, Calif., March 14, 2012 – Sunesis Pharmaceuticals, Inc. (Nasdaq: SNSS) today reported financial results for the fourth quarter and year ended December 31, 2011. Net loss for the three months and year ended December 31, 2011 was $8.7 million and $20.1 million, respectively. As of December 31, 2011, cash, cash equivalents and marketable securities totaled $44.1 million.

"Thanks to the continuing successful execution of our strategic plan, Sunesis today is well positioned to capitalize on the value of vosaroxin, which we believe is the most advanced and promising therapy in development for acute myeloid leukemia," said Daniel Swisher, Chief Executive Officer of Sunesis. "In support of our future objectives, we have advanced all aspects of our pivotal vosaroxin program, including enrollment of 260 patients to date in our Phase 3 VALOR trial, which is progressing toward an interim analysis in the third quarter of this year; built significant financial flexibility, having executed a $25 million tranched debt financing facility in the fourth quarter; and recently expanded our intellectual property estate, supporting commercial and development runway to 2030. We also entered into a partnership with Millennium Pharmaceuticals in March 2011 for the pan-Raf kinase inhibitor MLN2480, and announced initiation of a Phase 1 study in September 2011."

Mr. Swisher added: "2012 promises to be a transformational year for Sunesis, as we advance the VALOR trial through the interim analysis, progress towards regulatory filings and prepare the market for the planned launch of vosaroxin in AML."

Fourth Quarter 2011 and Recent Highlights

- ***Announced DSMB Recommendation to Continue VALOR Trial Based on Safety Review.*** In December, Sunesis announced that the independent Data and Safety Monitoring Board (DSMB) for the VALOR trial completed a planned periodic safety review and recommended that the trial continue as planned without changes to study conduct.

- ***Announced appointment of Dr. Adam R. Craig as Chief Medical Officer.*** In February, Sunesis announced the appointment of Adam R. Craig, M.B.B.S., Ph.D., M.B.A. to the newly created position of Executive Vice President, Development and

Chief Medical Officer. In this position, Dr. Craig will direct Sunesis' R&D organization and global development programs.

- ***Announced notice of allowance for U.S. patent application covering vosaroxin compositions.*** In February, Sunesis announced that the U.S. Patent and Trademark Office has issued a Notice of Allowance for U.S. Patent Application No. 12/982,785 claiming certain compositions related to vosaroxin, and provides patent exclusivity to mid-2030 in the United States. A family of corresponding patent applications is pending in the U.S. and internationally.

- ***Announced participation in Cardiff University sponsored Phase 2/3 trial.*** In December, Sunesis announced participation in a Phase 2/3 randomized, controlled, multicenter trial evaluating novel treatment regimens, including two regimens containing vosaroxin, against low dose cytarabine in elderly AML or high-risk myelodysplastic syndrome (MDS) patients who are not candidates for intensive chemotherapy. The trial, known as the Less Intensive 1 (LI-1) Trial, is being sponsored by Cardiff University and conducted by the United Kingdom's National Cancer Research Institute Haematological Oncology Study Group under the direction of Professor Alan K. Burnett. In March 2012, the first patients were enrolled in this trial.

2012 Key Milestones

- ***VALOR interim analysis:*** Sunesis expects the planned interim analysis of the VALOR trial by the DSMB to occur in the third quarter of 2012. As previously announced, the DSMB will meet to examine pre-specified efficacy and safety data sets and decide whether to 1) stop the trial early for efficacy or for futility; 2) continue the study to its planned unblinding, expected in mid-2013; or 3) recommend a one-time "adaptive" sample size increase with unblinding expected in early 2014.

- ***European orphan drug designation for vosaroxin:*** Sunesis expects a decision from the European Commission regarding orphan drug designation for vosaroxin for the treatment of AML.

- ***Kinase inhibitors programs:*** Sunesis expects Millennium Pharmaceuticals, Inc. will present data from the pan-Raf kinase inhibitor program at the American Association of Cancer Research meeting in Chicago on April 1, 2012. The company also expects that other kinase collaboration programs with Biogen Idec and Millennium will continue to progress toward the clinic.

Financial Highlights

- Cash, cash equivalents and marketable securities totaled $44.1 million as of December 31, 2011, as compared to $53.4 million as of December 31, 2010.

- Revenues for the three months and year ended December 31, 2011 were nil and $5.0 million, as compared to $6,000 and $33,000 for the same periods in 2010. Revenue in 2011 was comprised of an upfront payment of $4.0 million that was received from Millennium in relation to the agreements that the company entered into with Biogen Idec and Millennium in March 2011, and $1.0 million from the recognition of deferred revenue

related to the sale of certain intellectual property rights to SARcode, which was recorded following the repayment of three promissory notes by SARcode in August 2011.

- Research and development expenses increase to $6.3 million and $22.6 million for the three months and year ended December 31, 2011, as compared to $4.9 million and $14.4 million for the same periods in 2010. The increases were primarily due to the ramp-up of the VALOR trial and related manufacturing and drug supply activities.

- General and administrative expenses for the three months and year ended December 31, 2011 were $2.2 million and $8.3 million, as compared to $1.8 million and $7.0 million for the same periods in 2010. The increases of were primarily due to increased personnel and professional service costs.

- Sunesis reported net losses of $8.7 million and $20.1 million for the three months and year ended December 31, 2011, as compared to $10.1 million and $24.6 million for the same periods in 2010. Net loss for 2011 included net non-cash credits of $5.9 million related to the revaluation of warrants issued as part of the underwritten offering in October 2010 to their fair value as of December 31, 2011. Net loss in each of the periods in 2010 reflect a non-cash charge of $3.7 million for the revaluation of these warrants to their fair value as of December 31, 2010.

- Cash used in operations was $7.3 million and $22.8 million for the three months and year ended December 31, 2011, as compared to $4.2 million and $19.4 million for the same periods in 2010.

- In October 2011, Sunesis entered into a $25.0 million tranched loan facility. Under the terms of the loan agreement, Sunesis received $10.0 million upon closing, with the remaining $15 million available for draw at the company's discretion following the planned interim analysis of the VALOR trial by the DSMB, subject to certain conditions specified in the loan agreement.

Conference Call Information

The Company will host a conference call today, March 14th at 10:30 a.m. Eastern Time. The call can be accessed by dialing (866) 362-4666 (U.S. and Canada) or (617) 597-5313 (international), and entering passcode 99720867. To access the live audio webcast, or the subsequent archived recording, visit the "Investors and Media - Calendar of Events" section of the Sunesis website at www.sunesis.com. The webcast will be recorded and available for replay on the company's website for two weeks.

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 more than 110 leading sites in the U.S., Canada, Europe, Australia and New Zealand. The VALOR trial is currently enrolling patients, who are 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 broader range of survival outcomes. The trial's primary endpoint is overall survival. For more information on the VALOR trial, please visit www.valortrial.com.

About Vosaroxin

Vosaroxin is a first-in-class anti-cancer quinolone derivative (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.

About AML

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 there were 12,950 new cases of AML and approximately 9,050 deaths from AML in the U.S. in 2011. Additionally, it is estimated that the prevalence of AML across major global markets (U.S., France, Germany, Italy, Spain, United Kingdom, and Japan) is over 50,000. 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, please visit http://www.sunesis.com.

This press release contains forward-looking statements, including statements related to Sunesis' strategy, the sufficiency of Sunesis' intellectual property estate and the patent exclusivity period for vosaroxin in the United States and other jurisdictions, the design, conduct, progress and results of the VALOR trial and other clinical trials, the occurrence and timing of the DSMB interim analysis, the sufficiency of Sunesis' financial resources and availability of the second tranche under the loan facility with Oxford Finance LLC, Horizon Technology Finance Corporation and Silicon Valley Bank, vosaroxin's effects, efficacy, safety profile and commercial potential as a single agent and in combination with cytarabine, the potential grant of orphan drug designation to vosaroxin by the European Commission, and the progress of the kinase collaboration programs. Words such as "continuing," "advanced'" "believe," "progressing," "promises," "expects" or "expected," "will," "provides" or "providing," "future objectives," "well-positioned," "plan" or "planned," 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 results of these risks and uncertainties, which include, without limitation, risks related to Sunesis' need for substantial additional funding to complete the development and commercialization of vosaroxin, risks related to Sunesis' ability to raise the capital that it believes to be accessible and is required to fully finance the development and commercialization of vosaroxin, the risk that raising funds through lending arrangements may restrict our operations or produce other adverse results, the risk that Sunesis' development activities for vosaroxin could be otherwise 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 and supply of the active pharmaceutical ingredients required for the conduct of the VALOR trial, 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, 2011, Sunesis' Annual Report on Form 10-K for the year ended December 31, 2011, when available, and Sunesis' 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.

SUNESIS PHARMACEUTICALS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands)

	December 31, 2011	December 31, 2010
ASSETS	**(Unaudited)**	**(Note 1)**
Current assets:		
Cash and cash equivalents	$ 9,311	$ 14,223
Marketable securities	34,804	39,173
Prepaids and other current assets	1,550	1,286
Total current assets	45,665	54,682
Property and equipment, net	74	116
Deposits and other assets	130	60
Total assets	$ 45,869	$ 54,858
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 658	$ 416
Accrued clinical expense	2,370	1,574
Accrued compensation	1,274	1,013
Other accrued liabilities	1,805	1,406
Warrant liability	2,276	8,154
Total current liabilities	8,383	12,563
Non-current portion of notes payable	9,453	-
Non-current portion of deferred rent	13	48
Commitments		
Stockholders' equity:		
Common stock	5	5
Additional paid-in capital	429,142	423,262
Accumulated other comprehensive income (loss)	19	(15)
Accumulated deficit	(401,146)	(381,005)
Total stockholders' equity	28,020	42,247
Total liabilities and stockholders' equity	$ 45,869	$ 54,858

Note 1: The consolidated balance sheet as of December 31, 2010 has been derived from the audited financial statements as of that date included in the Company's Annual Report on Form 10-K for the year ended December 31, 2010.

SUNESIS PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)
(In thousands, except per share amounts)

	Three months ended December 31,		Year ended December 31,	
	2011	2010	2011	2010
	(Unaudited)		(Unaudited)	(Note 2)
Revenue:				
Collaboration revenue	$ -	$ -	$ -	$ 27
License and other revenue	-	6	5,000	6
Total revenues	-	6	5,000	33
Operating expenses:				
Research and development	6,326	4,873	22,563	14,433
General and administrative	2,159	1,785	8,303	7,005
Total operating expenses	8,485	6,658	30,866	21,438
Loss from operations	(8,485)	(6,652)	(25,866)	(21,405)
Other income (expense), net	(255)	(3,419)	5,725	(3,182)
Net loss	(8,740)	(10,071)	(20,141)	(24,587)
Unrealized gain (loss) on available-for-sale securities	(1)	(23)	34	(15)
Comprehensive loss	$ (8,741)	$ (10,094)	$ (20,107)	$ (24,602)
Basic and diluted loss per common share:				
Net loss	(8,740)	(10,071)	(20,141)	(24,587)
Shares used in computing basic and diluted net loss per common share	46,733	43,879	46,412	24,860
Basic and diluted net loss per common share	$ (0.19)	$ (0.23)	$ (0.43)	$ (0.99)

Note 2: The consolidated statement of operations for the year ended December 31, 2010 has been derived from the audited financial statements as of that date included in the Company's Annual Report on Form 10-K for the year ended December 31, 2010.