

November 1, 2017



Syros to Present Initial Clinical Data from Ongoing Phase 2 Clinical Trial of SY-1425 and New Preclinical Data on SY-1365 at ASH Annual Meeting

Syros to Host Investor Event and Webcast on December 11

CAMBRIDGE, Mass.--(BUSINESS WIRE)-- Syros Pharmaceuticals (NASDAQ: SYRS), a biopharmaceutical company pioneering the discovery and development of medicines to control the expression of disease-driving genes, today announced that initial clinical data from the ongoing Phase 2 trial of SY-1425, its first-in-class selective retinoic acid receptor alpha (RAR α) agonist, in genomically defined subsets of patients with acute myeloid leukemia (AML) and myelodysplastic syndrome (MDS), and new preclinical data on SY-1365, its first-in-class selective cyclin-dependent kinase 7 (CDK7) inhibitor currently in a Phase 1 clinical trial in advanced solid tumors, will be presented at the American Society of Hematology (ASH) Annual Meeting and Exposition taking place December 9-12 in Atlanta.

The presentation on SY-1425 will include data on pharmacokinetic (PK) and pharmacodynamic (PD) measures, evidence of differentiation in patients' bone marrow and initial assessments of clinical activity and safety of SY-1425 as a monotherapy from the relapsed or refractory AML and higher-risk MDS cohort, as well as the lower-risk transfusion-dependent MDS cohort, in the Phase 2 clinical trial. Syros expects to present additional clinical data from the study, including data assessing the safety and efficacy of SY-1425 in combination with azacitidine and with an anti-CD38 antibody, in 2018.

The presentation on SY-1365 will include preclinical data showing significant anti-tumor activity in multiple leukemia and lymphoma cell lines, as well as *in vivo* models of AML. The Company will also present data on its identification of a biomarker related to the mitochondrial apoptosis pathway that is predictive of sensitivity to SY-1365 in leukemia cell lines, as well as *in vitro* data showing synergy with the BCL2 inhibitor venetoclax.

Details on the presentations are as follows:

Date & Time: Sunday, December 10, from 6-8 p.m. ET

Presentation Title: Early Results from a Biomarker-Directed Phase 2 Trial of SY-1425 in Acute Myeloid Leukemia (AML) and Myelodysplastic Syndrome (MDS) Demonstrate DHRS3 Induction and Myeloid Differentiation Following SY-1425 Treatment

Session Title: 616. Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Poster II

Presenter: Joseph G. Jurcic, Professor of Medicine and Director of the Hematologic Malignancies Section of the Division of Hematology/Oncology, Columbia University Medical Center

Abstract Number: 2633

Location: Georgia World Congress Center, Building A, Level 1, Hall A2

Date & Time: Sunday, December 10, from 6-8 p.m. ET

Presentation Title: SY-1365, a Potent and Selective CDK7 Inhibitor, Exhibits Anti-Tumor Activity in Preclinical Models of Hematologic Malignancies, and Demonstrates Interactions with the BCL-XL/BCL2 Mitochondrial Apoptosis Signaling Pathway in Leukemia

Session Title: 616. Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Poster II

Presenter: Emmanuelle di Tomaso, Ph.D., Vice President, Translational Medicine, Syros

Abstract Number: 2651

Location: Georgia World Congress Center, Building A, Level 1, Hall A2

Investor Event and Webcast Information

Syros will host an investor event on Monday, December 11 beginning at 12:00 p.m. ET in Atlanta to discuss the initial SY-1425 clinical data presented at ASH. The event will be webcast live and can be accessed under "Events & Presentations" in the Investors section of the Company's website at <https://ir.syros.com>. A replay of the webcast will be available approximately two hours after the event and will be available for 30 days following the event.

About Syros Pharmaceuticals

Syros Pharmaceuticals is pioneering the understanding of the non-coding region of the genome to advance a new wave of medicines that control expression of disease-driving genes. Syros has built a proprietary platform that is designed to systematically and efficiently analyze this unexploited region of DNA in human disease tissue to identify and drug novel targets linked to genomically defined patient populations. Because gene expression is fundamental to the function of all cells, Syros' gene control platform has broad potential to create medicines that achieve profound and durable benefit across a range of diseases. Syros is currently focused on cancer and immune-mediated diseases and is advancing a growing pipeline of gene control medicines. Syros' lead drug candidates are SY-1425, a selective RAR α agonist in a Phase 2 clinical trial for genomically defined subsets of patients with acute myeloid leukemia and myelodysplastic syndrome, and SY-1365, a selective CDK7 inhibitor in a Phase 1 clinical trial for patients with advanced solid tumors, including transcriptionally dependent cancers such as triple negative breast, small cell lung and ovarian cancers. Led by a team with deep experience in drug discovery, development and commercialization, Syros is located in Cambridge, Mass.

Cautionary Note Regarding Forward-Looking Statements

This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995, including without limitation statements regarding the therapeutic benefit of SY-1425 as a single agent and in combination with azacitidine; the reporting of clinical data from the ongoing Phase 2 clinical trial of SY-1425 in 2018; the commencement of clinical trial of SY-1425 in combination with an anti-CD38 therapeutic antibody; and the benefits of Syros' gene control platform. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "target," "should," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these

identifying words. Moreover, there can be no assurance that the PK and PD data generated to date in the ongoing Phase 2 clinical trial of SY-1425 are predictive of the ability of such trial to meet any of its endpoints. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements as a result of various important factors, including Syros' ability to: advance the development of its programs, including SY-1425 and SY-1365, under the timelines it projects in current and future clinical trials; demonstrate in any current and future clinical trials the requisite safety, efficacy and combinability of its drug candidates; replicate scientific and non-clinical data in clinical trials; successfully develop a companion diagnostic test to identify patients with the RARA and IRF8 biomarkers; obtain and maintain patent protection for its drug candidates and the freedom to operate under third party intellectual property; obtain and maintain necessary regulatory approvals; identify, enter into and maintain collaboration agreements with third parties; manage competition; manage expenses; raise the substantial additional capital needed to achieve its business objectives; attract and retain qualified personnel; and successfully execute on its business strategies; risks described under the caption "Risk Factors" in Syros' Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, which is on file with the Securities and Exchange Commission; and risks described in other filings that Syros makes with the Securities and Exchange Commission in the future. Any forward-looking statements contained in this press release speak only as of the date hereof, and Syros expressly disclaims any obligation to update any forward-looking statements, whether because of new information, future events or otherwise.

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