May 19, 2016

Syros Pharmaceuticals to Present on its Two Lead Programs, SY-1425 and SY-1365, at 21st Congress of the European Hematology Association

SY-1425 for Genomically Defined Subsets of Patients with Acute Myeloid Leukemia and Myelodysplastic Syndrome Selected for Oral Presentation

CAMBRIDGE, Mass.--(BUSINESS WIRE)-- Syros Pharmaceuticals today announced that preclinical data on its lead program, SY-1425, in genomically defined subsets of patients with acute myeloid leukemia (AML) and myelodysplastic syndromes (MDS) will be highlighted in an oral presentation at the 21st Congress of the European Hematology Association (EHA) taking place June 9-12 in Copenhagen, Denmark. The Company will also present new preclinical data on its first-in-class selective cyclin-dependent kinase 7 (CDK7) inhibitor, SY-1365, in acute leukemia.

SY-1425 in Novel Genomically Defined Subset of AML and MDS Patients
Using its gene control platform, Syros identified a subset of AML and MDS patients whose tumors have a highly specialized regulatory region of non-coding DNA, known as a super-enhancer, associated with the *RARA* gene. The super-enhancer associated with *RARA* is believed to lead to over-production of the RARα transcription factor, locking cells in an immature, undifferentiated and proliferative state. Treatment with SY-1425, an oral, potent and selective agonist of RARα, appears to promote differentiation of cancer cells with the *RARA*-associated super-enhancer, inhibiting the cancer's growth. The oral presentation at EHA will detail SY-1425's mechanism of action as well as *in vitro* and *in vivo* data showing that a biomarker for the *RARA* super-enhancer discovered by Syros is predictive of response to treatment with SY-1425 in models of AML, including a survival benefit observed in the mice with the *RARA* biomarker when treated with SY-1425. Syros is on track to advance SY-1425 into a Phase 2 trial in mid-2016 in subsets of AML and MDS patients whose tumors are positive for the *RARA* biomarker.

Date & Time: Sunday, June 12, from 9-9:15 a.m. CEST
Presentation Title: Super-Enhancer Analysis Defines Novel AML and MDS Sub-Types Sensitive to SY-1425, a Potent and Selective RARα Agonist
Session Title: AML Biology - Novel Targeted Therapies
Presenter: Michael R. McKeown, Ph.D., Senior Scientist, Syros Pharmaceuticals
Abstract Number: S807
Location: Bella Center, Auditorium 2

CDK7 Inhibition as a Novel Treatment Strategy for Acute Leukemia
Certain cancers, including AML and acute lymphoblastic leukemia (ALL), are dependent on high and constant expression of transcription factors for their growth and survival and have

been shown to be particularly responsive to selective inhibition of the transcriptional kinase CDK7. The poster presentation at EHA details preclinical data demonstrating that SY-1365, the Company's first-in-class selective and potent CDK7 inhibitor, preferentially kills cancer cells by inducing robust and dose-dependent apoptosis in acute leukemia cell lines while not inducing apoptosis in non-cancerous cells. The data also show that SY-1365 produces a significant survival benefit in patient-derived xenograft models of AML. Syros expects to advance SY-1365 into a Phase 1/2 trial in the first half of 2017 in patients with acute leukemia, including AML and ALL.

Date & Time: Saturday, June 11, from 5:30-7 p.m. CEST
Presentation Title: First-in-Class CDK7 Inhibitor Induces Robust Apoptosis in Acute Myeloid Leukemia and Demonstrates Durable *In Vivo* Efficacy
Session Title: Acute Myeloid Leukemia - Biology 3
Presenter: Yoon J. Choi, Ph.D., Senior Scientist, Syros Pharmaceuticals
Abstract Number: P558
Location: Bella Center, Hall H, Poster Area

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, the Company's gene control platform has broad potential to achieve profound and durable benefit across a range of diseases. Syros is focused on cancer and immune-mediated diseases and is advancing a growing pipeline, including its lead drug candidates SY-1425, a selective RARα agonist for genomically defined subsets of patients identified by its platform, for a range of cancers including acute myeloid leukemia and myelodysplastic syndrome, and SY-1365, a selective CDK7 inhibitor for a range of blood cancers and solid tumors. Led by a team with deep experience in drug discovery, development and commercialization, Syros is located in Cambridge, Mass.

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