February 21, 2017

Syros' Drug Discovery Research in Immuno-Oncology Highlighted at UCSD Moores Cancer Center Symposium

Company Identifies Alterations in the Regulatory Genome of Tumor-Associated Macrophages in Subset of Pancreatic Cancer Patient Tissues

Findings Underscore the Promise of the Syros' Gene Control Platform to Yield Important Insights into Thwarting Cancer's Ability to Evade the Immune System

CAMBRIDGE, Mass.--(BUSINESS WIRE)-- Syros Pharmaceuticals (NASDAQ: SYRS), a biopharmaceutical company pioneering the development of medicines to control the expression of disease-driving genes, today announced that its collaborator, Andrew Lowy, M.D., Professor of Surgery and Chief of the Division of Surgical Oncology at the University of California San Diego Moores Cancer Center, presented Syros' drug discovery research in immuno-oncology at the Moores Cancer Center Industry/Academia Translational Oncology Symposium. As part of a research collaboration in pancreatic cancer with the Lowy laboratory at the Moores Cancer Center, Syros scientists discovered alterations in regulatory regions of the genome in tumor-associated macrophages in a subset of patient tissues. Because these alterations are unique to the immunosuppressive state, they could point to genes critical for driving immunosuppression in the tumor microenvironment, as well as potential drug targets to reactivate the immune system to fight cancer.

"Syros' gene control platform provides a unique lens for understanding how cancer can evade and manipulate the body's immune system to fuel its growth and become resistant to existing therapies," Dr. Lowy said. "Through investigation of the immune components within the tumor microenvironment, our hope is to develop medicines that can unleash our natural defenses against cancer."

Together with the Lowy laboratory, Syros used its proprietary gene control platform to isolate tumor-associated macrophages directly from pancreatic cancer patient tissues and analyze regulatory regions of DNA in these cells. Then, by comparing those regions in the tumor-associated macrophages to those from healthy donors, Syros scientists identified alterations unique to the immunosuppressive state. Tumor-associated macrophages are of significant interest in immuno-oncology because they play a key role in the body's immune response to cancer, with M1 macrophages promoting immune-mediated tumor regression and M2 macrophages allowing tumors to grow unimpeded.

"The inclusion of our research at this conference reflects the recognition among academic and industry leaders of the promise of Syros' gene control platform to uncover important insights into the mechanisms employed by cancer cells to essentially shut down the immune response within the tumor and to create drugs that can increase killing of tumor cells by the immune system," said Eric Olson, Ph.D., Chief Scientific Officer of Syros. "We believe our

focus on the regulatory genome of immune and tumor cells isolated from primary tumors represents a distinct approach to immuno-oncology with the potential to provide a profound benefit for subsets of cancer patients."

Syros has a broader immuno-oncology drug discovery effort outside of the collaboration focused on identifying and drugging novel targets to control the function of immune cells within the tumor microenvironment. Using a similar approach to the one used in the Lowy collaboration, Syros has identified and validated a drug target that, when inhibited, re-activates tumor-associated macrophages to a pro-tumor killing state. Syros' immuno-oncology research is focused on cancers in which the tumor microenvironment is known to play a key role in disease progression or drug resistance, including glioblastoma and pancreatic, triple negative breast and ovarian cancers. By analyzing immune and tumor cells directly in patient tumor tissues, Syros aims to better understand the heterogeneity of immune responses among patients and identify subsets of patients most likely to respond to specific immunotherapy strategies.

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 RARα 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 with potential in a range of solid tumors and blood 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 benefits of Syros' gene control platform in the field of immuno-oncology. 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. 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; obtain and maintain patent protection for its drug candidates and the freedom to operate under third party intellectual property; 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;; 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 the company’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2016, which is on file with the Securities and Exchange Commission; and risks described in other filings that the company 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.

View source version on businesswire.com:
http://www.businesswire.com/news/home/20170221005213/en/

Media Contact:
Syros Pharmaceuticals, Inc.
Naomi Aoki, 617-283-4298
naoki@syros.com
or
Investor Contact:
Stern Investor Relations, Inc.
Hannah Deresiewicz, 212-362-1200
hannahd@sternir.com

Source: Syros Pharmaceuticals, Inc.