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# Syros Pharmaceuticals Announces New Research Published on Role of Cell Signaling Pathways in Gene Control

- Paper in *Molecular Cell* by Syros scientific founders validates approach to therapeutic gene control in cancers with signaling and transcriptional dependencies -

WATERTOWN, Mass.--(BUSINESS WIRE)-- [Syros Pharmaceuticals](#), a therapeutics company focused on discovering and developing novel gene control therapies, announced today the publication of a study that demonstrated how gene control components, known as super-enhancers, act as functional units that concentrate multiple signaling pathways at key genes and can coordinate transcriptional activity. This work demonstrates how these gene control components provide a platform for signaling pathways to regulate key genes that control cell identity in normal cells and in cancer.

Led by Syros Scientific Co-Founders Richard Young, PhD, Member, Whitehead Institute, and Professor of Biology, Massachusetts Institute of Technology, and James Bradner, MD, Associate Professor of Medicine, Harvard Medical School, Attending Physician & Investigator, Department of Medical Oncology Dana-Farber Cancer Institute, and Associate Director, Center for the Science of Therapeutics at the Broad Institute, the paper entitled “Convergence of developmental and oncogenic signaling pathways at transcriptional super-enhancers,”<sup>1</sup> was published in *Molecular Cell* on March 19, 2015. Young and Bradner first discovered that cancer cells acquire super-enhancers at key genes that promote tumor growth and their new study reveals that these super-enhancer driven genes are especially sensitive to disruption of cancer signaling pathways. These results suggest that tumor cells evolve super-enhancers to enhance the connection to cancer signaling pathways, implying that therapies that target both cancer signaling pathways and gene control components may be especially effective in treating certain cancers.

“These findings have elucidated how cell signaling pathways interact with key gene control components to coordinate expression of cell identity genes,” said [Eric Olson](#), PhD, Syros’ Chief Scientific Officer. “This discovery provides further validation for our approach for the development of novel therapeutics specifically targeting these master gene switches in cancer and other disease cells.”

## About Syros Pharmaceuticals

Syros Pharmaceuticals is a therapeutics company harnessing breakthroughs in gene control to revolutionize the treatment of cancer and other diseases. Syros’ proprietary platform identifies the master switches for disease genes, opening a whole new approach to novel therapeutics and biomarkers. The Company’s founders are pioneers in gene control research and translation. Co-founded by Flagship Ventures and ARCH Venture Partners, Syros Pharmaceuticals is located in Watertown, MA. For more information, visit

[www.syros.com](http://www.syros.com).

<sup>1</sup> Hnisz et al., Convergence of developmental and oncogenic signaling pathways at transcriptional super-enhancers, *Molecular Cell* ([Vol. 57 Iss. 6, March 19, 2015](#))

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