



Alexion and Sema4 Partner in Rare Disease Diagnostics and Systems Biology

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Accelerating rare-disease diagnostics and treatments through innovation

NEW HAVEN, Conn and STAMFORD, Conn. — August 10, 2017 — Alexion Pharmaceuticals, Inc. (NASDAQ: ALXN) and Sema4 today announced a strategic partnership to leverage their shared experience in data science and systems biology to accelerate rare disease diagnosis and therapeutic discovery. This new partnership will combine Alexion's rare disease SmartPanel analytics with Sema4's proven success in next-generation sequencing and genomic interpretation to further enable novel diagnostic and therapeutic insights into rare diseases.

"The world-class sequencing capabilities at Sema4 coupled with Alexion's SmartPanel analytics will enable a comprehensive evaluation of a patient's genome to uncover pathogenic mutations linked to rare diseases," said John Reynders, PhD, Vice President of Data Sciences, Genomics, and Bioinformatics at Alexion. "This collaboration will help accelerate an accurate diagnosis for patients with rare genetic diseases and reduce the multi-year process that many families face before receiving a diagnosis." Alexion and Sema4 will also collaborate in searching for and decoding rare disease "genomic shields" – a buffering mechanism that enables patients with a known disease-causing mutation in their genome to resist the manifestation of the disease.

"The advanced data science and bioinformatics capabilities that Alexion and Sema4 both bring to the table will enable us to decode these unique patients who are resistant to their genetic propensity for disease," said Sema4 CEO, Eric Schadt, PhD. "By building systems biology models of the rare disease biology in these patients, we can identify novel points of therapeutic intervention for patients."

Under the partnership, Alexion will share, research and further refine the SmartPanel, which Sema4 will leverage to optimize the design of next-generation sequencing solutions and accelerate the interpretation of genomic and phenotypic data. Both parties will combine expertise in data science and bioinformatics to decode the network biology of target systems and research the decoding of genomic shields.

About Sema4

Sema4 is a health information company that is committed to providing open access to data and creating practical tools that help patients, clinicians, and researchers better diagnose, treat, and prevent disease. Sema4 is constructing a more comprehensive picture of health by combining a wealth of clinical experience that informs the answers that patients and providers are seeking, the world-class academic research that illuminates new directions, and the pioneering information science that puts all the pieces together. Sema4 is a venture of the Mount Sinai Health System, an integrated health system that is internationally recognized for its excellence in research, patient care, and education.

For more information, please visit sema4.com and connect with Sema4 on [Facebook](#), [Twitter](#) and [YouTube](#).

About Alexion

Alexion is a global biopharmaceutical company focused on developing and delivering life-transforming therapies for patients with devastating and rare disorders. Alexion is the global leader in complement inhibition and has developed and commercialized the first and only approved complement inhibitor to treat patients with paroxysmal nocturnal hemoglobinuria (PNH) and atypical hemolytic uremic syndrome (aHUS), two life-threatening ultra-rare disorders. In addition, Alexion's metabolic franchise includes two highly innovative enzyme replacement therapies for patients with life-threatening and ultra-rare disorders, hypophosphatasia (HPP) and lysosomal acid lipase deficiency (LAL-D). Alexion is advancing its rare disease pipeline with highly innovative product candidates in multiple therapeutic areas. This press release and further information about Alexion can be found at: www.alexion.com.

Media Contacts

Sema4

Radley Moss
radley.moss@sema4.com

Alexion
Kim Diamond, 475-230-3775
Executive Director, Corporate Communications