

## Ionis Announces Plans for Management Transitions in 2020

December 20, 2018

CARLSBAD, Calif., Dec. 20, 2018 /PRNewswire/ -- Ionis Pharmaceuticals, Inc. (NASDAQ: IONS) and its Board of Directors announced today that, effective January 2020, Ionis' founder and CEO, Stanley T. Crooke, M.D., Ph.D., will be transitioning from chief executive officer to executive chairman of Ionis' board of directors. As executive chairman, Dr. Crooke will continue to be responsible for the activities of the board and will remain active in the company, providing strategic advice and continuing to participate in the scientific activities of the company. The board has selected Brett P. Monia, Ph.D., who has been Ionis' chief operating officer for the last year and a member of the Ionis team since its founding nearly 30 years ago, to serve as Ionis' chief executive officer starting in January 2020.



Dr. Crooke said of this planned transition, "I am very pleased with the state of Ionis today and I believe that in January 2020, when the transition will be effected, the company will be even stronger. The Board and I are confident that implementing this transition in 2020 provides the optimum timing to ensure a smooth transition and provide successful long-term leadership for the company. We are equally confident that we have the right person to lead Ionis moving forward. Brett is a founding member of Ionis, an outstanding scientist and a well-recognized expert in antisense technology. He is a business leader in biopharma with broad experience in multiple aspects of the industry. As an executive officer at Ionis for the past seven years, Brett contributes to all strategic decisions."

Dr. Monia stated, "I am excited about the opportunity to advance Ionis to the next chapter in its evolution. The company's future has never been brighter. With the new medicines in our pipeline, we are offering more hope to more patients with devastating diseases with inadequate or no treatment options. I am committed to ensuring that Ionis continues to advance these important medicines and our antisense platform, while continuing to build on the company's financial strength, so that we can continue to provide great benefit to even more patients and to our shareholders. I am grateful to Stan for his remarkable vision, creativity and passion in leading Ionis since its founding almost 30 years ago."

Dr. Crooke founded Ionis Pharmaceuticals to pursue the development of a new drug discovery technology—antisense. Since that time the company has made significant advancements in antisense technology. During his tenure at Ionis, he has led the scientific development of a new platform for drug discovery, antisense technology, and engineered the creation of one of the largest and most advanced development pipelines in the biotechnology industry. Today, Ionis is a multi-product company and the leader in RNA-targeted therapies, having developed breakthrough medicines, such as SPINRAZA® and TEGSEDI™, for patients with rare genetic diseases, and has a pipeline of over 45 medicines in development or on the market for treating patients with a broad range of diseases—from rare to common ones.

Dr. Crooke has been recognized throughout his career as a leader in the field. He has published nearly 500 scientific publications, edited more than 20 books, and has numerous patents. He was named Man of the Year by The Crohn's Disease Society; he received the SMA Breakthrough Award and he achieved the Lifetime Achievement Award from Scrip. He received the 2016 Oligonucleotide Therapeutic Society Lifetime Achievement Award and the E.B. Hershberg Award for Important Discoveries in Medicinally Active Substances presented by The American Chemical Society. Dr. Crooke was named by Nature Biotechnology as one of the most influential individuals in biotechnology and has received the Director of the Year Award from the Corporate Directors Forum, the Distinguished Scientist Award from the American Chemical Society (San Diego Chapter), the Helix Award, for the most important innovation in biotechnology by the Biotechnology Industry Organization, BIO, Stony Brook University and the Center for Biotechnology, and the Ernst and Young and Entrepreneur Award of the Year Award as well as Distinguished Alumnus at Baylor College of Medicine and at Butler University.

Dr. Monia is a founding member of Ionis. He has been an executive officer of the company since the beginning of 2012 and the chief operating officer since the beginning of 2018. He has served as the senior vice president of translational medicine and as the franchise leader for programs in oncology and rare diseases at Ionis. As the former head of drug discovery at Ionis, Dr. Monia was responsible for establishing strategic directions for preclinical drug discovery research focused on RNA-directed therapeutic platforms, establishing and supervising of early clinical development strategies, and coordinating research activities with clinical investigators, consultants, and with corporate partners. Dr. Monia has authored more than 200 primary scientific publications. His contributions include research into the medicinal chemistry and mechanisms of action of oligonucleotide-based drugs in cell culture and in animals, and in the establishment of numerous preclinical and clinical programs, many of which have resulted in clinical proof of concept across a broad range of therapeutic areas, including oncology, cardiometabolic diseases, inflammation, respiratory diseases, neurodegenerative diseases and rare diseases. Programs under Dr. Monia's direct supervision have resulted in the clinical development of more than 40 antisense-based drugs to date, resulting in multiple market authorization approvals. Dr. Monia has also served as President of the Oligonucleotide Therapeutics Society (OTS), and currently serves on the Board of Directors for Dynacure Therapeutics and as an adjunct professor of Biology at San Diego State University.

### About Ionis Pharmaceuticals, Inc.

As the leader in RNA-targeted drug discovery and development, Ionis has created an efficient, broadly applicable, proprietary antisense technology platform with the potential to treat diseases where no other therapeutic approaches have proven effective. Our drug discovery platform has served as a springboard for actionable promise and realized hope for patients with unmet needs – such as children and adults with spinal muscular atrophy (SMA). We created SPINRAZA® (nusinersen)\* and are proud to have brought new hope to the SMA community by developing the first and only approved treatment for this disease.

Our sights are set on all the patients we have yet to reach with a pipeline of more than 40 drugs with the potential to treat patients with cardiovascular disease, rare diseases, neurological diseases, infectious diseases and cancer. We created TEGSEDI™ (inotersen) the world's first RNA-targeted therapeutic approved for the treatment of polyneuropathy of hereditary transthyretin (TTR) amyloidosis (ATTR) in adult patients that our affiliate Akcea Therapeutics is commercializing. Together with Akcea, we are also bringing new medicines to patients with cardiometabolic lipid disorders.

To learn more about Ionis follow us on twitter @ionispharma or visit <http://ir.ionispharma.com/>.

\*Spinraza is marketed by Biogen.

#### **Ionis' Forward-looking Statement**

This press release includes forward-looking statements regarding Ionis Pharmaceuticals' business and the therapeutic and commercial potential of Ionis' technologies, products in development and commercial products, including SPINRAZA® and TEGSEDI™ (inotersen). Any statement describing Ionis' goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those inherent in the process of discovering, developing and commercializing drugs that are safe and effective for use as human therapeutics, and in the endeavor of building a business around such drugs. Ionis' forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause its results to differ materially from those expressed or implied by such forward-looking statements. Although Ionis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Ionis. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Ionis' programs are described in additional detail in Ionis' annual report on Form 10-K for the year ended December 31, 2017, and most recent Form 10-Q quarterly filing, which are on file with the SEC. Copies of this and other documents are available from the Company.

In this press release, unless the context requires otherwise, "Ionis," "Company," "we," "our," and "us" refers to Ionis Pharmaceuticals and its subsidiaries.

Ionis Pharmaceuticals™ is a trademark of Ionis Pharmaceuticals, Inc. Akcea Therapeutics™ is a trademark of Akcea Therapeutics, Inc. TEGSEDI™ is a trademark of Akcea Therapeutics, Inc. SPINRAZA® is a registered trademark of Biogen.

 View original content to download multimedia: <http://www.prnewswire.com/news-releases/ionis-announces-plans-for-management-transitions-in-2020-300769957.html>

SOURCE Ionis Pharmaceuticals, Inc.

Ionis Pharmaceuticals Investor Contact: D. Wade Walke, Ph.D., Vice President, Investor Relations, 760-603-2741; Ionis Pharmaceuticals Media Contact: Roslyn Patterson, Vice President, Corporate Communications, 760-603-2681