

Ionis Pharmaceuticals' CEO, Dr. Stanley Crooke, Receives E. B. Hershberg Award from the American Chemical Society

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CARLSBAD, Calif., Aug. 22, 2016 /PRNewswire/ -- Ionis Pharmaceuticals, Inc. (NASDAQ: IONS) announced today that Stanley T. Crooke, Ph.D., M.D., founder, CEO and chairman of the board of directors of Ionis Pharmaceuticals, Inc., has been awarded the E. B. Hershberg Award for important discoveries in medicinally active substances by the American Chemical Society, a society representing more than 150,000 scientists. The E. B. Hershberg Award recognizes Dr. Crooke's achievements in leading the creation of an innovative, efficient drug discovery and development platform, antisense technology. Dr. Crooke's accomplishments will be recognized at the American Chemical Society Annual meeting, which will be held on April 4, 2017 in San Francisco, California.



"Dr. Crooke is the father of antisense technology, an ingenious therapeutic platform to address many serious diseases in ways that complement if not surpass other more conventional drug therapies," said Stephen Hanessian, FRSC, O.C., professor of chemistry at the University of Montreal and internationally renowned in his field. "Dr. Crooke's vision, resolve, and creative genius in promoting and developing this new platform are now richly rewarded by the coveted E. B. Hershberg award, recognizing his stellar contributions to biomedical science with major health benefits to humankind."

Dr. Crooke is a successful biotechnology entrepreneur and inventor. During his tenure at Ionis, Dr. Crooke 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 pipeline of drugs in the biotechnology industry. Currently, Ionis has more than three dozen drugs in development, including three Phase 3 drugs that are all completing Phase 3 studies in the next several months, and more than a dozen in mid-stage development. Dr. Crooke has achieved commercialization of the first two RNA-targeted drugs to reach the market.

"I am honored to have received this award and it is humbling to be recognized by this prestigious society. In the course of my career, I have always focused my efforts on putting the patient first. In keeping with that focus, I was privileged to lead the development efforts of more than 20 marketed drugs, which have served to improve the lives of patients around the world," said Dr. Crooke. "I have invested the last 27 and counting years of my career in founding and leading Ionis Pharmaceuticals to create and advance antisense technology. Today, Ionis has two approved drugs, three Phase 3 drugs nearing commercialization and a large, diverse pipeline of over three dozen innovative medicines. All of these drugs have the potential to fundamentally change the course of a broad range of diseases. The opportunity to have led the creation of a novel technology platform that is able to bring significant value to patients today and greater potential to bring even more value in the future has truly been a highlight of my career."

ABOUT STANLEY T. CROOKE, M.D., PH.D.

Dr. Crooke is recognized as one the world's foremost experts on antisense technology. In addition to his responsibilities as the CEO and chairman of the board of directors at Ionis, he leads an active research lab focused on advancing antisense drug technology through the elucidation of its underlying molecular mechanisms. His publications include over 450 scientific papers and he has edited 21 books.

Dr. Crooke started his industry career at Bristol Laboratories where he helped to establish the anticancer drug discovery and development program and played a key role in bringing to market a significant number of anticancer drugs. Later, at SmithKline, he oversaw worldwide R&D, coordinated all research activities, including instruments and diagnostics, and was involved in commercializing numerous new drugs in broad therapeutic areas. Dr. Crooke received his M.D. and Ph.D. degrees and house staff training at Baylor College of Medicine and has been an active scientist throughout his career.

Dr. Crooke has also supported the creation and growth of a number of companies based on Ionis' technology, including Akcea, Regulus, Ibis and others. He has served as a board member of 22 biotechnology and scientific companies and is currently a member of the board of directors of the Biotechnology Industry Organization (BIO). Dr. Crooke has been the recipient of numerous awards. Most recently, he accepted the SCRIP Lifetime Achievement Award, which recognizes Dr. Crooke's dedication to advancing science and medicine as a physician, a scientist, a leader and as a successful entrepreneur. Nature Biotechnology named him as one of the most influential individuals in biotechnology. He was awarded 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 BIO, Stony Brook University and the Center for Biotechnology; and the Ernst and Young Entrepreneur of the Year Award. Dr. Crooke was also recognized as a Distinguished Alumnus at both Baylor College of Medicine and Butler University.

ABOUT IONIS PHARMACEUTICALS, INC.

Ionis is the leading company in RNA-targeted drug discovery and development focused on developing drugs for patients who have the highest unmet medical needs, such as those patients with severe and rare diseases. Using its proprietary antisense technology, Ionis has created a large pipeline of first-in-class or best-in-class drugs, with over a dozen drugs in mid- to late-stage development. Drugs currently in Phase 3 development include volanesorsen, a drug Ionis is developing and plans to commercialize through its wholly owned subsidiary, Akcea Therapeutics, to treat patients with either familial chylomicronemia syndrome or familial partial lipodystrophy; IONIS-TTR_{Rx}, a drug Ionis is developing with GSK to treat patients with all forms of TTR amyloidosis; and nusinersen, a drug Ionis is developing with Biogen to treat infants and children with spinal muscular atrophy. Ionis' patents provide strong and extensive protection for its drugs and technology. Additional information about Ionis is available at www.ionispharma.com.

IONIS' FORWARD-LOOKING STATEMENT

This press release includes forward-looking statements regarding the therapeutic and commercial potential of Ionis' technologies and products in

development, including nusinersen, IONIS-TTR_{RX} and volanesorsen. 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, 2015, and its most recent quarterly report on Form 10-Q, which are on file with the SEC. Copies of these 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.

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