Webinar Advisory: Regulus to Host Discussion About Potential of microRNA-33 as Target for Treatment of Atherosclerosis

Speakers to Include NYU Langone Medical Center's Kathryn Moore, Ph.D., Who will Cover Research Findings Published Last Week in Nature

LA JOLLA, Calif., Oct. 26, 2011 /PRNewswire/ -- Regulus Therapeutics Inc., a biopharmaceutical company leading the discovery and development of innovative medicines targeting microRNAs, will host today a webinar that focuses on the potential of microRNA-33 as a target for the treatment of atherosclerosis. The discussion will involve pre-clinical research findings that demonstrate microRNA-33's key role in cholesterol homeostasis and fatty acid metabolism. These findings were published last week in *Nature* (Rayner et al., *Nature*, October 20, 2011).

Date:	Today, Wednesday, October 26, 2011
Time:	11 a.m. EDT
Place:	**http://www.videonewswire.com/event.asp?id=82015**

Presenters and Topics

- Neil Gibson, Ph.D., Chief Scientific Officer at Regulus Therapeutics, will discuss microRNAs and why microRNA therapeutics represent a new class of innovative, high-impact medicines.
- Kathryn Moore, Ph.D., Associate Professor in the Department of Medicine at NYU Langone Medical Center, will highlight the new preclinical data on targeting microRNA-33 for the treatment of cardiovascular disease.
- Hubert Chen, M.D., Vice President Translational Medicine at Regulus Therapeutics, will discuss the next steps and clinical opportunities for targeting microRNA-33.

The discussion will be moderated by Zachary Zimmerman, Ph.D., Director Business Development at Regulus Therapeutics.

To participate in the webinar, please register at http://www.videonewswire.com/event.asp?id=82015. Questions for the panelists may be submitted online during the live event. Please connect to the webinar 15 min. prior to the start time to ensure adequate time for registration and to download any software that may be necessary.

Windows Media Player software is downloadable free from http://www.microsoft.com and at least a 56Kbps connection to the internet is required. If you experience problems listening to the webinar, please send an e-mail to: webcast@multivu.com.

About microRNA-33a/b

microRNA-33a and b (miR-33a/b), which differ by only two nucleotides, are intronic microRNAs located within the sterol response element binding protein genes *SREBF2* and *SREBF1*, respectively, which code for transcription factors that regulate cholesterol homeostasis and fatty acid metabolism. Recent studies have shown that miR-33a/b regulates the cholesterol and fatty acid pathways in a negative feedback loop. miR-33a/b represses the cholesterol transporter ABCA1 in hepatocytes and macrophages resulting in decreased cellular cholesterol efflux to apoA1, a key step in the generation of HDL-C and reverse cholesterol transport. Inhibition of miR-33 in mice, which only have miR-33a, resulted in an increase in expression of ABCA1 protein and increase in cholesterol efflux resulting in a reduction of atherosclerotic plaques (Rayner *et al.*, *J Clin Invest.* 2011). In addition, miR-33a/b suppresses key enzymes involved in the oxidation of fatty acids resulting in the accumulation of triglyceride. Inhibition of miR-33a/b increases fatty acid oxidation and insulin signaling (Davalos *et al.*, *PNAS*. 2011). These studies suggest that an anti-miR33a/b oligonucleotide treatment may be a promising strategy to treat atherosclerosis.

About microRNAs

The discovery of microRNA in humans during the last decade is one of the most exciting scientific

breakthroughs in recent history. microRNAs are small RNA molecules, typically 20 to 25 nucleotides in length, that do not encode proteins but instead regulate gene expression. More than 700 microRNAs have been identified in the human genome, and over one-third of all human genes are believed to be regulated by microRNAs. A single microRNA can regulate entire networks of genes. As such, these molecules are considered master regulators of the human genome. microRNAs have been shown to play an integral role in numerous biological processes, including the immune response, cell-cycle control, metabolism, viral replication, stem cell differentiation and human development. Most microRNAs are conserved across multiple species, indicating the evolutionary importance of these molecules as modulators of critical biological pathways. Indeed, microRNA expression, or function, has been shown to be significantly altered in many disease states, including cancer, heart failure and viral infections. Targeting microRNAs with anti-miRs, antisense oligonucleotide inhibitors of microRNAs, or miR-mimics, double-stranded oligonucleotides to replace microRNA function opens potential for a novel class of therapeutics and offers a unique approach to treating disease by modulating entire biological pathways. To learn more about microRNAs, please visit http://www.regulusrx.com/microrna/microrna-explained.php.

About Regulus Therapeutics, Inc.

Regulus Therapeutics is a biopharmaceutical company leading the discovery and development of innovative medicines targeting microRNAs. Regulus is using a mature therapeutic platform based on technology that has been developed over 20 years and tested in more than 5,000 humans. The company works with a broad network of academic collaborators and leverages the oligonucleotide drug discovery and development expertise of its founding companies, Alnylam Pharmaceuticals (*NASDAQ:ALNY*) and Isis Pharmaceuticals (*NASDAQ:ISIS*). Regulus is advancing microRNA therapeutics toward clinical development in several areas, including fibrosis, hepatitis C, immuno-inflammatory diseases, metabolic diseases and oncology. Regulus' intellectual property estate contains both the fundamental and core patents in the field and includes over 600 patents and more than 300 pending patent applications pertaining primarily to chemical modifications of oligonucleotides targeting microRNAs for therapeutic applications. In April 2008, Regulus formed a major alliance with GlaxoSmithKline to discover and develop microRNA therapeutics for immuno-inflammatory diseases. In February 2010, Regulus and GlaxoSmithKline entered into a new collaboration to develop and commercialize microRNA therapeutics targeting microRNA-122 for the treatment of hepatitis C infection. In June 2010, Regulus and sanofi-aventis entered into the largest-to-date strategic alliance for the development of microRNA therapeutics with an initial focus on fibrosis. For more information, please visit http://www.regulusrx.com.

Click here to view video segments about microRNA therapeutics and Regulus featuring the company's executives http://www.youtube.com/user/RegulusRx#p/f

Click here to follow Regulus on Twitter at www.twitter.com/regulusrx .

Forward-Looking Statements

This press release includes forward-looking statements regarding the future therapeutic and commercial potential of Regulus' business plans, technologies and intellectual property related to microRNA therapeutics being discovered and developed by Regulus, including statements regarding the therapeutic potential of targeting miR-33a/b. Any statement describing Regulus' 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 products. Such forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause the results to differ materially from those expressed or implied by such forward-looking statements. Although these forward-looking statements reflect the good faith judgment of Regulus' management, these statements are based only on facts and factors currently known by Regulus. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Regulus', Alnylam's, and Isis' programs are described in additional detail in Alnylam's and Isis' annual reports on Form 10-K for the year ended December 31, 2010, and its most recent quarterly report on Form 10-Q. Copies of these and other documents are available from Alnylam or Isis.

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