



## **PRESS RELEASE**

### **Gene Signal Presents Positive Data at ARVO 2012 Demonstrating Topical Aganirsen is Active in Models of Retinal Neovascular disease**

*Clinical Studies in Retinal Diseases Scheduled to Begin in Second Half 2012*

**Fort Lauderdale, FL, USA and Lausanne, Switzerland, May 8, 2012** – Gene Signal, a company focused on developing innovative drugs to manage angiogenesis based conditions, today announced that positive data from a study of aganirsen (GS-101, eye drops) in a nonhuman primate model of choroidal neovascularization has been presented at the 2012 ARVO Annual Meeting in Fort Lauderdale, Florida. Topical administration of aganirsen was found to inhibit neovascular growth and leakage in this model and strongly suggests a role for the drug candidate in human retinal neovascular diseases such as wet age-related macular degeneration (AMD) and ischemic retinopathy. Gene Signal's aganirsen is an antisense oligonucleotide that is expected to complete a phase III trial for the treatment of progressive neovascularisation in the cornea in 2012. Clinical studies in retinal diseases are scheduled to begin during the second quarter 2012.

"This study demonstrates the ability of aganirsen to address neovascularization formation in the retina by inhibiting the expression of the angiogenic protein IRS-1. Importantly, this is achieved without affecting normal vascularisation," noted Dr. Matthew Lawrence of RxGen, Inc, who presented the data. "With the demand for new, effective antiangiogenic agents that are easier to use in the treatment of several eye diseases growing, we believe these data strongly support a role for aganirsen."

Aganirsen blocks pathological neovascularization by inhibiting IRS-1. Clinical studies to date have shown that aganirsen is able to safely and effectively inhibit the development of progressive corneal neovascularization secondary to infectious keratitis or chemical burns both of which could lead to corneal graft replacement.

"A topical agent for neovascular disease would revolutionize treatment. There is a huge unmet need for many ophthalmological diseases including AMD, ischemic retinopathy and certain forms of glaucoma," noted Eric Viaud, CEO of Gene Signal. "To confirm the many advantages that topical aganirsen could offer over currently available drugs, we intend to begin Phase II clinical evaluation in the next few months. We also acknowledge that a group of world leading experts have agreed to discuss the future development of aganirsen during the current ARVO conference. Their insight is invaluable and gratefully accepted by our team."

## Study Details

Aganirsen (topical emulsion) was applied daily in non-human primates following laser induced choroidal neovascularisation (CNV), a model of wet age-related macular degeneration (AMD). Retinal aganirsen concentrations were assessed in monkeys following topical delivery (21.5, 43 or 86 µg).

Aganirsen was found to inhibit dose-dependently neovascular lesion development, with the incidence of high-grade CNV lesions (grade IV, as measured by fluorescein signal intensity) decreasing from 20.5% in vehicle-treated animals to 1.7% ( $p < 0.05$ ) in animals treated with the highest dose of Aganirsen (86 µg/day). The size of neovascularization complexes was also significantly lower in eyes receiving high dose and low dose aganirsen ( $p < 0.0001$ ) compared with vehicle-treated eyes.

## About Gene Signal

Gene Signal ([www.genesignal.com](http://www.genesignal.com)) is developing a robust pipeline of novel antisense oligonucleotides, proteins and monoclonal antibodies to treat a range of conditions based on its innovative angiogenesis modulating technology. The company's most advanced therapeutic product is aganirsen (GS-101), an antisense oligonucleotide that has nearly completed phase III for the prevention of corneal graft rejection. Aganirsen is also entering phase II clinical trials for additional angiogenesis based diseases, such as wet age-related macular degeneration (AMD), neovascular glaucoma, and dermal indications.

Antisense oligonucleotides confer distinctive advantages versus other biologics: they can be readily transported across cell membranes, are associated with low immunogenicity, and can be produced by simple chemical synthesis, unlike larger proteins and monoclonal antibodies that require cell culture and complex purification steps.

Through world leading expertise in discovering genes involved in the regulation of angiogenesis, Gene Signal has built a significant intellectual property portfolio that has relevance in multiple disease areas. Gene Signal plans to seek partnership with the pharmaceutical industry for the next steps of development and marketing. The company was founded in 2000 and has assembled an outstanding leadership team that includes scientific, medical, regulatory and business professionals with successful track records in developing and commercialising state of the art drugs. Gene Signal's headquarters are in Lausanne (PSE, EPFL), Switzerland, with its research programs based in France (Bioparc Genopole, Evry) and product development in Canada (Montréal).

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