Press Release

GenSight Biologics Reports Second Patient Case Showing Significant Visual Recovery after GS030 Optogenetic Treatment

- Vision improved significantly, from being barely able to perceive light before treatment to being able to locate and count objects, one year after gene therapy
- Video showing patient successfully performing visual tests available on www.gensight-biologics.com

Paris, France, November 17, 2021, 7:30 am CEST – GenSight Biologics (Euronext: SIGHT, ISIN: FR0013183985, PEA-PME eligible), a biopharma company focused on developing and commercializing innovative gene therapies for retinal neurodegenerative diseases and central nervous system disorders, today reported a second case of a patient with late-stage retinitis pigmentosa (RP) who partially recovered her visual function after treatment with GS030 optogenetic therapy.

"We are delighted by the highly encouraging signs emerging from PIONEER, which are demonstrating the promise of optogenetics to treat one of the most common blinding genetic disorders," commented **Bernard Gilly**, Co-Founder and Chief Executive Officer of GenSight. *"We will eagerly push forward towards the realization of a treatment for retinitis pigmentosa patients."*

The GS030 optogenetic treatment, which combines gene therapy with the use of light-stimulating goggles, led to the patient being able to perceive and count objects one year after injection with GS030's gene therapy component. The patient is a participant in the ongoing PIONEER Phase I/II clinical trial of GS030, like another patient whose partial recovery was published as a case report in *Nature Medicine* in May 2021.

The patient, whose improvement is documented in a video, had been diagnosed with retinitis pigmentosa 20 years prior to enrollment and, at the time of injection, was barely able to perceive light. She received a single intravitreal (IVT) injection with the medium dose (1.5E11 vector genomes) of GS030 gene therapy in her worse-seeing eye and, after four months, started training on the use of the device.

Twelve months after injection, the patient could detect and correctly locate objects of different sizes and contrasts placed on a white table in front of her, with a 57% success rate when wearing the GenSight light-stimulating goggles, compared to only 24% without the device.

A video of the patient performing the tests can be viewed at www.gensight-biologics.com.

The patient was featured in an update on PIONEER that was presented by **Dr. José-Alain Sahel, MD**, Co-founder of GenSight Biologics and of the *Institut de la Vision* (Sorbonne-Université/Inserm/CNRS), Paris, France, and Distinguished Professor and Chairman of the Department of Ophthalmology at University of Pittsburgh School of Medicine, Pittsburgh, PA, USA, at the Retina Sub-Specialty Day of the American Academy of Ophthalmology (AAO) annual meeting (November 12-15, 2021).

Dr. Sahel also provided an update on the safety of GS030. The optogenetic therapy has been well-tolerated up to 3 years after the single intravitreal injection administered to the 9 subjects treated to date.

There have been no systemic issues related to gene therapy, no adverse events leading to study discontinuation, and no withdrawal of participants.

In September 2021, after reviewing the safety data for the first three cohorts of the PIONEER trial, the independent Data Safety Monitoring Board recommended the use of the highest dose of the gene therapy (5E11 vector genomes) in the extension cohort. The trial's topline results are expected to be available in H2 2022.

Contacts

GenSight Biologics
Chief Financial Officer
Thomas Gidoin
tgidoin@gensight-biologics.com
+33 (0)1 76 21 72 20

RooneyPartners
Media Relations
Jeanene Timberlake
jtimberlake@rooneyco.com
+1 646 770-8858

LifeSci Advisors
Investor Relations
Guillaume van Renterghem
gvanrenterghem@lifesciadvisors.com
+41 (0)76 735 01 31

Orpheon Finance
Retail Investors
James Palmer
j.palmer@orpheonfinance.com
+33 (0)7 60 92 77 74

About GenSight Biologics

GenSight Biologics S.A. is a clinical-stage biopharma company focused on developing and commercializing innovative gene therapies for retinal neurodegenerative diseases and central nervous system disorders. GenSight Biologics' pipeline leverages two core technology platforms, the Mitochondrial Targeting Sequence (MTS) and optogenetics, to help preserve or restore vision in patients suffering from blinding retinal diseases. GenSight Biologics' lead product candidate, LUMEVOQ® (GS010; lenadogene nolparvovec), has been submitted for marketing approval in Europe for the treatment of Leber Hereditary Optic Neuropathy (LHON), a rare mitochondrial disease affecting primarily teens and young adults that leads to irreversible blindness. Using its gene therapy-based approach, GenSight Biologics' product candidates are designed to be administered in a single treatment to each eye by intravitreal injection to offer patients a sustainable functional visual recovery.

About GS030

GS030 leverages GenSight Biololgics' optogenetics technology platform, a novel approach to restore vision in blind patients using a combination of ocular gene therapy and tailored light-activation of treated retinal cells. The gene therapy, which is delivered via a single intravitreal injection, introduces a gene encoding for a light-sensitive protein (ChrimsonR-tdT) into retinal ganglion cells, making them responsive to light and bypassing photoreceptors killed off by diseases such as retinitis pigmentosa (RP). Because ChrimsonR-tdT is activated by high intensities of amber light, a wearable medical device is needed to stimulate the treated retina. The optronic light-stimulating goggles (GS030-MD) encode the visual scene in real-time and project a light beam with a specific wavelength and intensity onto the treated retina. Treatment with GS030 requires patients to wear the external wearable device in order to enable restoration of their visual function. With the support of the *Institut de la Vision* in Paris and the team of Dr. Botond Roska at the Friedrich Miescher Institute in Basel, GenSight is investigating GS030 as therapy to restore vision in patients suffering from late-stage RP. GenSight's optogenetics approach is independent of the specific genetic mutations causing blindness and has potential applications in other diseases of the retina in which photoreceptors degenerate, like dry age-related macular degeneration (dry-AMD). GS030 has been granted Orphan Drug Designation in the United States and Europe.

About Optogenetics

Optogenetics is a biological technique that involves the transfer of a gene encoding for a light sensitive protein to cause neuronal cells to respond to light stimulation. As a neuromodulation method, it can be used to modify or control the activities of individual neurons in living tissue and even in-vivo, with a very high spatial and temporal resolution. Optogenetics combines (1) the use of gene therapy methods to transfer a gene into target neurons with (2) the use of optics and electronics (optronics) to deliver the light to the transduced cells. Optogenetics holds clinical promise in the field of vision impairment or degenerative neurological disorders.

About Retinitis Pigmentosa

Retinitis pigmentosa (RP) is a family of orphan genetic diseases caused by multiple mutations in numerous genes involved in the visual cycle. Over 100 genetic defects have been implicated. RP patients generally begin experiencing vision loss in their young adult years, with progression to blindness by age 40. RP is the most widespread hereditary cause of blindness in developed nations, with a prevalence of about 1.5 million people throughout the world. In Europe and the United States, about 350,000 to 400,000 patients suffer from RP, and every year between 15,000 and 20,000 new patients with RP lose sight. There is currently no curative treatment for RP.

About the PIONEER Phase I/II trial

PIONEER is a first-in-man, multi-center, open label dose-escalation study to evaluate the safety and tolerability of GS030 in 12-18 subjects with late-stage retinitis pigmentosa. GS030 combines a gene therapy (GS030-DP) administered via a single intravitreal injection with a wearable optronic visual stimulation device (GS030-MD). Eligible patients in the first three cohorts are those affected by end-stage non-syndromic RP with no light perception (NLP) or light perception (LP) levels of visual acuity. The extension cohort will include patients with hand motion (HM) and counting fingers (CF) levels of visual acuity.

As per protocol, three cohorts with three subjects each will be administered an increasing dose of GS030-DP via a single intravitreal injection in their worse-seeing eye. An extension cohort will receive the highest tolerated dose. The DSMB will review the safety data of all treated subjects in each cohort and will make recommendations before a new cohort receives the next dose. The primary outcome analyses will be on the safety and tolerability at one year post-injection. PIONEER is being conducted in three centers in the United Kingdom, France and the United States.