MeiraGTx Announces Investigational Gene Therapy Continues to Demonstrate Statistically Significant Improvement in Vision in Patients with X-Linked Retinitis Pigmentosa One Year After Treatment

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Data presented at AAO 2020 Virtual Annual Meeting show sustained improvements in retinal sensitivity at 12 months

LONDON and NEW YORK, Nov. 13, 2020 (GLOBE NEWSWIRE) -- MeiraGTx Holdings plc (Nasdaq: MGTX), a vertically integrated, clinical stage gene therapy company, today announced 12-month data from the ongoing Phase 1/2 clinical trial (NCT03252847) of AAV-RPGR, an investigational gene therapy in development for the treatment of X-linked retinitis pigmentosa (XLRP). Statistically significant vision improvement in the dose escalation phase of the trial was sustained one year after treatment. These data were presented today as a late-breaker oral presentation at the American Academy of Ophthalmology (AAO) 2020 Virtual Annual Meeting.

MeiraGTx and Janssen Pharmaceuticals, Inc. (Janssen), one of the Janssen Pharmaceutical Companies of Johnson & Johnson, are jointly developing AAV-RPGR as part of a broader collaboration to develop and commercialize gene therapies for the treatment of inherited retinal diseases.

In the ongoing Phase 1/2 MGT009 clinical trial, each patient was treated with subretinal delivery of AAV-RPGR in one eye and the patient's other eye served as an untreated control. The primary endpoint of the trial is safety, with secondary endpoints assessing changes in visual function at pre-specified timepoints post-treatment. Baseline values were determined in triplicate.

In the dose escalation phase of the trial, data at the 12-month time point demonstrated statistically significant improvement in retinal sensitivity in treated eyes in both the low (n=3) and intermediate (n=4) dose cohorts, with six of seven patients demonstrating improved or stable vision in the treated eye one year after treatment.

"Significant vision improvement in XLRP patients was sustained one year after treatment with this novel gene therapy," said Michel Michaelides [1], BSc MB BS MD(Res) FRCOphth FACS, MGT009 trial investigator, Consultant Ophthalmologist, Moorfields Eye Hospital and Professor of Ophthalmology, University College London. "XLRP is a degenerative disease that progresses to blindness in working-age adults. These findings suggest AAV-RPGR has the potential to not only stabilize vision, but to actually improve vision in patients who have no current therapeutic options."

AAO Data Summary:

Retinal sensitivity
XLRP is characterized by progressive deterioration of the visual field. Octopus 900 full-field static perimetry and MAIA microperimetry were employed to determine change in retinal sensitivity following intervention.

Perimetry is a sensitive, standard-of-care measure of retinal function that reproducibly determines retinal sensitivity both cross-sectionally and longitudinally, thereby accurately evaluating disease progression over time.

At the 12-month analysis, compared to baseline:

- Six out of seven patients in the low (n=3) and intermediate (n=4) dose cohorts demonstrated improvement or stability in retinal sensitivity in the treated eye.
- Statistically significant differences in mean retinal sensitivity were observed between treated and untreated eyes in the intermediate dose cohort: 1.05 dB; (90% CI: 0.81, 1.29).
- Statistically significant differences were observed in central visual field progression rate (V30) between treated and untreated eyes in the low: 1.10 dB-sr/year; (90% CI: 0.10, 2.10) and intermediate: 1.26 dB-sr/year; (90% CI: 0.65, 1.86) dose cohorts.
- Efficacy signals were observed at the first post-treatment assessments at three months, with improvements sustained or increased at 12 months.

Vision-guided mobility
Markedly impaired mobility in low illumination is a hallmark symptom of XLRP. As part of the trial, patients completed a vision-guided mobility maze at baseline and nine months to assess their ability to navigate across a broad range of controlled light levels (1 lux = deep twilight, 4 lux = residential street lighting, 16 lux = twilight conditions, 64 lux = car park and 256 lux = office work). These results were first presented at the EURETINA 2020 Virtual Congress in October 2020.

At the nine-month analysis, compared to baseline:

- Five of six patients demonstrated improvement in walk time for the treated eye at lux levels 1, 4 or 16.
- Significant improvement was observed between treated and untreated eyes in the low and intermediate dose cohorts (n=6) at 1 lux, -16.1 seconds (90% CI: 9.91, 22.1) and 4 lux, -3.71 seconds (90% CI: 2.83, 4.96); with the greatest improvement at the lowest light level (1 lux).

- Vision-guided mobility assessment was not carried out in the high dose cohort at the nine-month timepoint due to a protocol revision implemented to align with the dose-expansion cohort assessment schedule.

Safety and tolerability
Safety data obtained to date continue to suggest AAV-RPGR is well-tolerated. No dose-limiting events occurred. As previously presented, signs of inflammation were observed in two of three patients in the high dose cohort, which may have been associated with decreased activity of the AAV-RPGR treatment in these patients. Inflammation was effectively managed with an extended steroid protocol.

Based on the safety and efficacy profile, the low and intermediate doses are being evaluated in the ongoing randomized, controlled expansion portion of the Phase 1/2 study, which completed enrollment in the first half of 2020.

MeiraGTx and development partner Janssen are preparing to initiate the pivotal Phase 3 Lumeos clinical trial of AAV-RPGR for the treatment of patients with XLRP.

About AAV-RPGR
AAV-RPGR is an investigational gene therapy for the treatment of patients with XLRP caused by disease-causing variants in the eye-specific form of the *RPGR* gene (*RPGR* ORF15). AAV-RPGR is designed to deliver functional copies of the *RPGR* gene to the subretinal space in order to improve and preserve visual function. MeiraGTx and development partner Janssen are currently conducting a Phase 1/2 clinical trial of AAV-RPGR in patients with XLRP with disease-causing variants in *RPGR* ORF15. AAV-RPGR has been granted Fast Track and Orphan Drug designations by the U.S. Food and Drug Administration (FDA) and PRIME, ATMP and Orphan designations by the European Medicines Agency (EMA).

About the Phase 1/2 MGT009 Clinical Trial
MGT009 is a multi-center, open-label Phase 1/2 trial (NCT03252847) of AAV-RPGR gene therapy for the treatment of patients with XLRP associated with disease-causing variants in the *RPGR* gene. MGT009 consists of three phases: dose-escalation, dose-confirmation, and dose-expansion. Each patient was treated with subretinal delivery of AAV-RPGR in the eye that was more affected at baseline. The patient's other eye served as an untreated control. In the dose-escalation phase (n=10), adults were administered low, intermediate, or high dose AAV-RPGR. The primary endpoint was safety. Visual function was assessed at baseline, three, six, nine and 12 months with Octopus 900 full-field static perimetry and mesopic fundus-guided microperimetry (MP); mean retinal sensitivity, visual field modeling and analysis (VFMA; Hill-of-vision volumetric measure), and pointwise comparisons were examined.

About X-Linked Retinitis Pigmentosa (XLRP)
XLRP is the most severe form of retinitis pigmentosa (RP), a group of inherited retinal diseases characterized by progressive retinal degeneration and vision loss. In XLRP, both rods and cones function poorly, leading to degeneration of the retina and total blindness. The most frequent cause of XLRP is disease-causing variants in the *RPGR* gene, accounting for more than 70% of cases of XLRP, and up to 20% of all cases of RP. There are currently no approved treatments for XLRP.

About MeiraGTx
MeiraGTx (Nasdaq: MGTX) is a vertically integrated, clinical stage gene therapy company with six programs in clinical development and a broad pipeline of preclinical and research programs. MeiraGTx has core capabilities in viral vector design and optimization and gene therapy manufacturing, as well as a potentially transformative gene regulation technology. Led by an experienced management team, MeiraGTx has taken a portfolio approach by licensing, acquiring and developing technologies that give depth across both product candidates and indications. MeiraGTx's initial focus is on three distinct areas of unmet medical need: inherited retinal diseases, neurodegenerative diseases and severe forms of xerostomia. Though initially focusing on the eye, central nervous system and salivary gland, MeiraGTx intends to expand its focus in the future to develop additional gene therapy treatments for patients suffering from a range of serious diseases.

For more information, please visit www.meiragtx.com.

Forward Looking Statement
This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including, without limitation, statements regarding the development and efficacy of AAV-RPGR, plans to advance AAV-RPGR into Phase 3 clinical trial and anticipated milestones regarding our clinical data and reporting of such data and the timing of results of data, including in light of the COVID-19 pandemic, as well as statements that include the words "expect," "intend," "plan," "believe," "project," "forecast," "estimate," "may," "should," "anticipate" and similar statements of a future or forward-looking nature. These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, our incurrence of significant losses; any inability to achieve or maintain profitability, raise additional capital, identify additional and develop existing product candidates, successfully execute strategic priorities, bring product candidates to market, expansion of our manufacturing facilities and processes, successfully enroll patients in and complete clinical trials, accurately predict growth assumptions, recognize benefits of any orphan drug designations, retain key personnel or attract qualified employees, or incur expected levels of operating expenses; the impact of the COVID-19 pandemic on the status, enrollment, timing and results of our clinical trials and on our business, results of operations and financial condition; failure of early data to predict eventual outcomes; failure to obtain FDA or other regulatory approval for product candidates within expected time frames or at all; the novel nature and impact of negative public opinion of gene therapy; failure to comply with ongoing regulatory obligations; contamination or shortage of raw materials or other manufacturing issues; changes in healthcare laws; risks associated with our international operations; significant competition in the pharmaceutical and biotechnology industries; dependence on third parties; risks related to intellectual property; changes in tax policy or treatment; our ability to utilize our loss and tax credit carryforwards; litigation risks; and the other important factors discussed under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, as such factors may be updated from time to time in our other filings with the SEC, which are accessible on the SEC's website at www.sec.gov. These and other important factors could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements represent management's estimates as of the date of this press release. While we may elect to update such forward-looking statements at some point in the future, unless required by law, we disclaim any obligation to do so, even if subsequent events cause our views to change. Thus, one should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. These forward-looking statements should not be relied upon as representing our views as of any date subsequent

to the date of this press release.

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[1] Professor Michaelides is a scientific founder of and consultant to MeiraGTx.