MeiraGTx Announces Positive Clinical Data Demonstrating Treatment with AAV-RPGR Investigational Gene Therapy Improves Vision in X-Linked Retinitis Pigmentosa Patients

July 17, 2020

• Data being presented at the American Society of Retina Specialists (ASRS) 2020 Virtual Annual Meeting

• Significant improvements demonstrated after treatment in Phase 1/2 clinical trial

• Based on encouraging safety and efficacy profile, MeiraGTx and Janssen expect to progress AAV-RPGR into Phase 3 Lumeos clinical trial

• MeiraGTx to host investor conference call on Friday, July 17 at 8:00 a.m. ET

LONDON and NEW YORK, July 17, 2020 (GLOBE NEWSWIRE) -- MeiraGTx Holdings plc (Nasdaq: MGTX), a vertically integrated, clinical stage gene therapy company, today announced six-month data from the ongoing Phase 1/2 clinical trial (NCT03252847) of AAV-RPGR, an investigational gene therapy in development for the treatment of patients with X-linked retinitis pigmentosa (XLRP) with genetically confirmed variants in the *RPGR* gene. Significant improvement in vision was demonstrated in the dose escalation phase of the trial and AAV-RPGR was found to be generally well tolerated. These initial results from the trial are being presented as a late-breaker oral presentation at the American Society of Retina Specialists (ASRS) 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.

The ongoing Phase 1/2 MGT009 clinical trial consists of three phases: dose-escalation, dose-confirmation, and dose-expansion. In the dose-escalation phase (n=10), adults were administered low, intermediate, or high dose AAV-RPGR. 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. 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.

At six months, significant improvement in retinal sensitivity was demonstrated in patients treated with low and intermediate dose AAV-RPGR. Improvement was evident at first post-treatment perimetry assessments at three months, with improvements generally sustained or increased at six months. Significant differences were observed in retinal sensitivity between treated and untreated eyes over time. Based on the robust safety and efficacy signals observed in the dose escalation portion of the study, the low and intermediate doses were selected for use in the ongoing randomized, controlled dose-expansion phase of the trial.

"XLRP is characterized by early-onset visual field loss, with most patients progressing to blindness and associated loss of independence by young adulthood," 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. "Six-month data demonstrate AAV-RPGR may improve visual function in XLRP patients. Initial data also suggest treatment with AAV-RPGR has the potential to stabilize or slow progressive vision loss. These results support AAV-RPGR as an important advancement in the treatment of XLRP, for which there is no currently available therapeutic option."

Based on the encouraging safety and efficacy data demonstrated in the MGT009 trial to date, MeiraGTx and Janssen expect to advance AAV-RPGR into the Phase 3 Lumeos clinical trial for the treatment of patients with XLRP caused by mutations in *RPGR* gene.

"We are pleased to share these encouraging initial results from our XLRP gene therapy trial and look forward to advancing this program into a Phase 3 trial," said Alexandria Forbes, Ph.D., president and chief executive officer of MeiraGTx. "These early data suggest AAV-RPGR has the potential to address some of the key functional manifestations of this severe disease for which there is no currently available therapy. I'd like to thank the investigators, patients and families who dedicate their time to our clinical trials and who continue to support us in our efforts to develop therapies that have the potential to make a meaningful difference and improve the lives of people with serious diseases."

Data Summary:
Data obtained to date suggest AAV-RPGR is generally well-tolerated. Most adverse events (AEs) were related to the surgical delivery procedure, were transient and resolved without intervention. There were no dose-limiting events. Inflammatory responses to therapy were observed in two out of three patients in the high dose cohort, which may have been associated with decreased activity of AAV-RPGR in these patients. Inflammation was effectively managed with an extended steroid protocol.

Six-month data from the dose escalation portion of the study (n=10) demonstrated meaningful improvement from baseline in retinal sensitivity in the low (n=3) and intermediate (n=4) dose cohorts. Importantly, these improvements were evident when assessed with two perimetry approaches (static perimetry and microperimetry) and three analysis metrics (mean retinal sensitivity, central 30° hill-of-vision volumetric measure (V30), and pointwise comparison).

- Significant differences in mean retinal sensitivity were observed between treated eyes and untreated eyes in the intermediate dose cohort: 1.02 dB (90% CI: 0.75, 1.31)
- Significant differences were observed in central visual field progression rate (V30) between treated eyes and untreated eyes in both the low[2], 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 first post-treatment assessments at three months, with improvements generally sustained or increased at six months.

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

ASRS Presentation Information:
Late-Breaker Presentation
Title: AAV-RPGR Gene Therapy for RPGR-Associated X-Linked Retinitis Pigmentosa: 6-month Results From a Phase 1/2 Clinical Trial
Presenter: Michel Michaelides, UCL Institute of Ophthalmology; Moorfields Eye Hospital
Date: Oral presentation available to ASRS meeting attendees on the virtual meeting site as of July 17, 2020; live Q&A session to take place July 25, 2020
Session: Hereditary Retinal Diseases Symposium
Time: 11:55 a.m. – 12:10 p.m. ET

Conference Call Information:
MeiraGTx will host a conference call and webcast to review Professor Michaelides' ASRS presentation on July 17, 2020 at 8:00 a.m. ET. The webcast can be accessed by visiting the Investors page of the Company's website at https://investors.meiragtx.com/events-presentations. Alternatively, please call 1 (866) 796-1272 (U.S.) or 1 (409) 937-8924 (International) to listen to the conference call. The conference ID number for the call is 4669817. A replay of the webcast and accompanying presentation materials will be available on the Company's website for 30 days following the conference call.

About AAV-RPGR
AAV-RPGR is an investigational gene therapy for the treatment of patients with XLRP caused by mutations 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 mutations 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 dose-escalation (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, acquire 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 March 31, 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.

[2] Excludes one subject with panuveitis in the low dose cohort

Source: MeiraGTx