REGENXBIO Reports Continued Progress Across Programs in Year-End 2019 Corporate Update

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ROCKVILLE, Md., Jan. 9, 2020 /PRNewswire/ --

- RGX-314 programs for treatment of wet AMD and diabetic retinopathy continue to advance
  - Plans to initiate a pivotal program of subretinal delivery for wet AMD in 2H 2020, following the 12-month assessment of Cohort 5 patients in the Phase I/IIa trial
  - FDA removes partial clinical hold on Phase I/IIa trial of subretinal delivery for wet AMD
  - Phase II trials of suprachoroidal delivery for treatment of wet AMD and diabetic retinopathy expected to begin in 2020
- Enrollment continues in Cohort 2 of RGX-121 Phase I/II trial in MPS II, with additional interim data expected in 2020
- Interim update from RGX-501 Phase I/II trial in HoFH supports Cohort 2 safety with steroid prophylaxis; LDL-C measures expected in 1H 2020
- Utilization of new corporate, research and manufacturing headquarters expected to begin in late 2020, and cGMP manufacturing facility with capacity to produce NAV vectors at scales up to 2,000 liters expected to be fully operational in 2021
- Ended 2019 above guidance estimate with $400 million in cash, cash equivalents and marketable securities

REGENXBIO Inc. (Nasdaq: RGNX), a leading clinical-stage biotechnology company seeking to improve lives through the curative potential of gene therapy based on its proprietary NAV® Technology Platform, today provided a year-end 2019 corporate update and anticipated milestones for 2020.

"2019 was an important year for the advancement and broadening of our internal gene therapy programs using NAV vectors for AAV-mediated antibody delivery and monogenic gene replacement. Importantly, we now have extensive clinical data from our RGX-314 program, which supports further development of our promising ophthalmology platform, with additional studies planned in 2020 to investigate subretinal and suprachoroidal approaches to treating wet AMD and diabetic retinopathy. Our key objective is to make RGX-314 available to patients as quickly as possible," said Kenneth T. Mills, President and Chief Executive Officer of REGENXBIO. "We also recently announced interim data from our RGX-121 program for the treatment of MPS II, which showed encouraging signs of enzyme activity in the central nervous system, and we began construction of our new headquarters, which will include additional cGMP manufacturing facilities to support late-stage development and commercial scale needs."

"Our strategic partnerships with other leading gene therapy developers continue to validate our NAV Technology Platform," Mr. Mills continued. "Zolgensma® became the first FDA approved gene therapy based on our proprietary NAV technology last year, a significant milestone, and other strategic partners continue to advance their clinical programs into later stages. We have a strong team and resources in place to drive our business forward to help realize the transformative potential that gene therapy holds for patients."

Product Candidate Updates

Gene Therapy Using NAV Vectors for AAV-Mediated Antibody Delivery:

- RGX-314 for the Treatment of Wet AMD
  - REGENXBIO expects to initiate a pivotal program for the subretinal delivery of RGX-314 for the treatment of wet AMD in the second half of 2020.
    - A pivotal clinical trial is expected to investigate the one-time administration of RGX-314 at a single dose compared to anti-VEGF injections, which is the current standard of care for patients with wet AMD. The primary efficacy endpoint in the trial will be the mean change in visual acuity from baseline assessed at 12 months after treatment with RGX-314.
    - REGENXBIO plans to finalize the design of the trial based on the 12-month

assessment of patients in Cohort 5 in the Phase I/IIa trial. This will allow for further characterization of RGX-314-treated patients, enhancements of the trial design and the potential acceleration of the clinical program.
        - REGENXBIO intends to submit the design of the trial to the FDA in mid-2020 and begin dosing patients in the second half of 2020.
    - The U.S. Food and Drug Administration (FDA) has removed the partial clinical hold on the Investigational New Drug (IND) application for the Phase I/IIa trial of the subretinal delivery of RGX-314 without modification to the surgical delivery system, after reviewing information provided by the Company. The partial clinical hold was not related to the gene therapy candidate.
    - As of December 31, 2019, RGX-314 continued to be well-tolerated across all cohorts in the Phase I/IIa trial, with no drug-related serious adverse events (SAEs) reported. All patients in Cohort 5 (2.5 x 1011 GC/eye) have now completed their 6-month follow-up.[1]
        - Patients in Cohort 5 continue to demonstrate a meaningful reduction in anti-vascular endothelial growth factor (anti-VEGF) treatment burden at 6 months following administration of RGX-314, with 8 out of 11 (73%) patients remaining anti-VEGF injection-free, and a reduction across the cohort of over 80% from the mean annualized injection rate during the 12 months prior to administration of RGX-314. Importantly, the Cohort 5 patients continued to demonstrate a mean improvement in vision of +3 ETDRS letters and mean improvement in retinal thickness of -83 microns, while the 8 patients who were anti-VEGF injection-free after administration of RGX-314 showed a mean improvement in vision of +5 ETDRS letters and mean improvement in retinal thickness of -83 microns.
    - REGENXBIO plans to initiate the Phase II trial of the suprachoroidal delivery of RGX-314 using the SCS Microinjector™ for the treatment of wet AMD in the first half of 2020.
        - The trial will build upon data from the Phase I/IIa trial of RGX-314 and is expected to evaluate patients in two dose cohorts of RGX-314 versus a control arm. Interim data is expected from Cohort 1 by the end of 2020.
- RGX-314 for the Treatment of Diabetic Retinopathy (DR)
    - REGENXBIO expects to submit an IND in the first half of 2020 and plans to initiate a Phase II trial of the suprachoroidal delivery of RGX-314 using the SCS Microinjector for the treatment of DR in the second half of 2020.
        - The trial is expected to evaluate patients in up to three dose cohorts of RGX-314 versus a control arm. Enrollment of Cohort 1 is expected to be complete by the end of 2020, with interim data expected in 2021.
- Research Program for the Treatment of Hereditary Angioedema (HAE)
    - As first announced in July 2019, REGENXBIO is developing a one-time gene therapy candidate to deliver a gene encoding a therapeutic antibody against plasma kallikrein, a key protein of the plasma contact pathway which is left unregulated in patients with HAE.
    - Preclinical animal studies conducted using NAV AAV8 indicate the potential for a sustained and safe delivery of biologically active antibody at therapeutic concentrations. REGENXBIO expects to select a lead product candidate in the first half of 2020 and provide a program update in the second half of 2020.
- Research Program for the Treatment of Neurodegenerative Diseases
    - REGENXBIO has expanded its exclusive collaboration program with Neurimmune AG to include therapies targeting alpha synuclein, in addition to tauopathies. The program uses Neurimmune's Reverse Translational Medicine™ platform along with REGENXBIO's NAV Technology Platform to design and develop vectorized antibody therapies for neurodegenerative diseases. REGENXBIO expects to provide a program update in the

second half of 2020.

Gene Therapy Using NAV Vectors for Rare Genetic Diseases:

- RGX-121 for the Treatment of Mucopolysaccharidosis Type II (MPS II)
  - As previously reported, as of December 16, 2019, RGX-121 was well-tolerated in Cohort 1 of the Phase I/II trial of RGX-121 delivered directly to the central nervous system (CNS), and no drug-related SAEs were reported. Patients in Cohort 1 demonstrated consistent and sustained reduction in heparan sulfate (HS) in the cerebral spinal fluid (CSF) and early signs of neurocognitive stability. HS is a key biomarker of iduronate-2-sulfatase enzyme activity and high amounts of HS accumulate in the CNS of MPS II patients, which closely correlates with neurocognitive decline. Additional data from Cohort 1 are expected to be presented at an upcoming medical conference in early 2020.
  - Dosing in Cohort 2 has begun, at an increased dose level. REGENXBIO expects to complete enrollment of Cohort 2 in the first half of 2020 and provide interim data in mid-2020.
  - REGENXBIO expects to provide additional details for a potentially accelerated program pathway following evaluation of interim data from Cohort 2 in the second half of 2020 and subsequent interactions with the FDA, in accordance with the Fast Track designation granted to RGX-121 in 2018.
- RGX-501 for the Treatment of Homozygous Familial Hypercholesterolemia (HoFH)
  - REGENXBIO previously announced the completed dosing of an expanded Cohort 2 in the Phase I/II trial of RGX-501 at a dose of $7.5x10^{12}$ GC/kg and including steroid prophylaxis. Per protocol, patients received at least a 13-week steroid treatment.
  - As of December 31, 2019, the three patients in the expanded Cohort 2 have been followed for an average of 17 weeks following administration of RGX-501, all beyond the 3-6 week window during which previous transaminase elevations have occurred at this dose level. No SAEs or significant elevations in liver enzyme levels were reported in the expanded Cohort 2 and all patients have completed their steroid treatment or initiated the taper from steroid treatment.
  - REGENXBIO plans to assess low-density lipoprotein (LDL-C) levels in the expanded Cohort 2 after all patients have completed their steroid treatment, and expects to provide interim data in the first half of 2020.
- RGX-111 for the Treatment of Mucopolysaccharidosis Type I (MPS I)
  - Recruitment, screening and additional site activations are ongoing in the Phase I clinical trial evaluating RGX-111 for the treatment of MPS I. In November 2019, REGENXBIO announced that RGX-111 was administered to a patient with MPS I through an investigator-initiated study. REGENXBIO expects to provide a program update in the second half of 2020.
- RGX-181 for the Treatment of Late-infantile Neuronal Ceroid Lipofuscinosis Type 2 (CLN2) Disease
  - REGENXBIO is conducting ongoing preclinical development of RGX-181, including assessment of unmet clinical needs such as neurologic and ophthalmologic manifestations of the disease. REGENXBIO expects to provide a program update in mid-2020 and submit an IND for a first-in-human trial in the second half of 2020.

Anticipated 2020 Milestones

REGENXBIO expects to meet the following milestones related to the development of internal product candidates in 2020:

Gene Therapy Using NAV Vectors for AAV-Mediated Antibody Delivery:

- RGX-314 for the Treatment of Wet AMD
    - Subretinal delivery
        - Complete 12-month assessments of Cohort 5 in the Phase I/IIa trial in the first half of 2020.
        - Initiate a pivotal trial in the second half of 2020.
    - Suprachoroidal delivery
        - Initiate Phase II trial in the first half of 2020.
        - Report interim data from Cohort 1 of the Phase II trial in the second half of 2020.
- RGX-314 for the Treatment of DR
    - Submit IND for a Phase II trial of suprachoroidal delivery in the first half of 2020.
    - Initiate Phase II trial of suprachoroidal delivery in the second half of 2020.
- Research Program for Treatment of HAE
    - Select lead product candidate in first half of 2020.
    - Provide program update in the second half of 2020.
- Research Program for Treatment of Neurodegenerative Diseases
    - Provide program update in the second half of 2020.

Gene Therapy Using NAV Vectors for Rare Genetic Diseases:

- RGX-121 for the Treatment of MPS II
    - Present additional interim data from Cohort 1 of the Phase I/II trial in the early 2020.
    - Provide interim data from Cohort 2 of the Phase I/II trial in mid-2020.
    - Provide program update in the second half of 2020.
- RGX-501 for the Treatment of Homozygous Familial Hypercholesterolemia (HoFH)
    - Present data from secondary endpoints of the expanded Cohort 2 of the Phase I/II trial, including changes in LDL-C, in the first half of 2020.
    - Provide program update in the first half of 2020.
- RGX-111 for the Treatment of MPS I
    - Provide program update in the second half of 2020.
- RGX-181 for the Treatment of CLN2 Disease
    - Provide program update in mid-2020.
    - Submit IND for a first-in-human trial in the second half of 2020.

Operational Updates and Anticipated Milestones in 2020

- Current Good Manufacturing Practice (cGMP) Manufacturing Facility
    - Construction of a new corporate, research and manufacturing headquarters in Rockville, Maryland, continues, with plans to begin utilizing the new headquarters in late 2020.
    - The new cGMP production facility is expected to allow for production of NAV vectors at scales up to 2,000 liters using REGENXBIO's platform suspension cell culture process, which will complement REGENXBIO's current external manufacturing network and capabilities. The cGMP facility is expected to be fully operational starting in 2021.

NAV Technology Licensee Program Highlights

As of December 31, 2019, REGENXBIO's NAV Technology Platform was being applied in one marketed product and more than 20 partnered product candidates in development. Fifteen of these partnered product candidates are in active clinical development. REGENXBIO's NAV Technology Licensees are advancing product candidates in a broad range of therapeutic areas and disease indications. Recent updates from NAV Technology Licensees include:

Marketed NAV Technology Products

- Novartis AG's Zolgensma for the Treatment of Spinal Muscular Atrophy (SMA)
    - REGENXBIO receives tiered royalties on the worldwide sales of Zolgensma up to a low

double-digit percentage and is eligible to receive an additional $80 million milestone payment upon the achievement of $1 billion in cumulative net sales. As of October 22, 2019, Novartis reported U.S. Zolgensma sales revenue of $175 million through the third quarter of 2019.
    - Novartis announced in October 2019 that Zolgensma is currently under regulatory review in Europe with an anticipated regulatory decision in the first quarter of 2020 and in Japan with an anticipated regulatory decision in the first half 2020.

Late-stage NAV Technology Clinical Programs

- Audentes Therapeutics, Inc.'s AT132 for the Treatment of X-Linked Myotubular Myopathy (XLMTM)
    - In November 2019, Audentes stated that the Biologics License Application submission for AT132 is planned for mid-2020, and the Marketing Authorization Application submission is planned for the second half of 2020. AT132 uses the NAV AAV8 vector.

Financial Guidance

As of December 31, 2019, REGENXBIO had $400 million in cash, cash equivalents and marketable securities. REGENXBIO expects these resources to fund the completion of its internal manufacturing capabilities and clinical advancement of its product candidates into 2022.

About REGENXBIO Inc.

REGENXBIO is a leading clinical-stage biotechnology company seeking to improve lives through the curative potential of gene therapy. REGENXBIO's NAV Technology Platform, a proprietary adeno-associated virus (AAV) gene delivery platform, consists of exclusive rights to more than 100 novel AAV vectors, including AAV7, AAV8, AAV9 and AAVrh10. REGENXBIO and its third-party NAV Technology Platform Licensees are applying the NAV Technology Platform in the development of a broad pipeline of candidates in multiple therapeutic areas.

Forward-Looking Statements

This press release includes "forward-looking statements," within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements express a belief, expectation or intention and are generally accompanied by words that convey projected future events or outcomes such as "believe," "may," "will," "estimate," "continue," "anticipate," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would" or by variations of such words or by similar expressions. The forward-looking statements include statements relating to, among other things, REGENXBIO's future operations, research and development activities, preclinical studies, clinical trials, costs and cash flow. REGENXBIO has based these forward-looking statements on its current expectations and assumptions and analyses made by REGENXBIO in light of its experience and its perception of historical trends, current conditions and expected future developments, as well as other factors REGENXBIO believes are appropriate under the circumstances. However, whether actual results and developments will conform with REGENXBIO's expectations and predictions is subject to a number of risks and uncertainties, including the timing of enrollment, commencement and completion and the success of clinical trials conducted by REGENXBIO, its licensees and its partners, the timing of commencement and completion and the success of preclinical studies conducted by REGENXBIO and its development partners, the timely development and launch of new products, the ability to obtain and maintain regulatory approval of product candidates, the ability to obtain and maintain intellectual property protection for product candidates and technology, trends and challenges in the business and markets in which REGENXBIO operates, the size and growth of potential markets for product candidates and the ability to serve those markets, the rate and degree of acceptance of product candidates, and other factors, many of which are beyond the control of REGENXBIO. Refer to the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of REGENXBIO's Annual Report on Form 10-K for the year ended December 31, 2018, and comparable "risk factors" sections of REGENXBIO's Quarterly Reports on Form 10-Q and other filings, which have been filed with the U.S. Securities and Exchange Commission (SEC) and are available on the SEC's website at www.sec.gov. All of the forward-looking statements made in this press release are expressly qualified by the cautionary statements contained or referred to herein. The actual results or developments anticipated may not be realized or, even if substantially realized, they may not have the expected consequences to or effects on REGENXBIO or its businesses or operations. Such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward-looking statements. Readers are cautioned not to rely too heavily on the forward-looking statements contained in this press release. These forward-looking statements speak only as of the date of this press release. REGENXBIO does not undertake any obligation, and specifically declines any obligation, to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

[1] One patient died 4.5 months after the administration of RGX-314 as a result of the subject's underlying disease, which was assessed to be unrelated to RGX-314. At the time of the death, the subject was free of anti-VEGF injections.

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