Xenon Pharmaceuticals Provides Updates on Neurology Pipeline Programs at AES2020, the Virtual Annual Meeting of the American Epilepsy Society

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Early, Promising Data from Physician-Led Phase 2 Open Label Clinical Trial Support XEN007 as a Potential Treatment of Childhood Absence Epilepsy (CAE)

BURNABY, British Columbia, Dec. 07, 2020 (GLOBE NEWSWIRE) -- Xenon Pharmaceuticals Inc. (Nasdaq:XENE), a neurology-focused biopharmaceutical company, announced updates on its proprietary and partnered neurology programs at AES2020, the virtual Annual Meeting of the American Epilepsy Society.

Dr. Simon Pimstone, Xenon's Chief Executive Officer, said, "We continue to make exciting advances as both our proprietary and partnered neurology pipeline candidates progress into mid- to late-stage clinical development. Presentations related to Xenon's proprietary programs, XEN1101 and XEN496, as well as our partnered program with Neurocrine, are scheduled in a number of poster sessions at AES2020. In addition, we continue to work with our collaborators who are conducting a Phase 2 physician-led study examining the potential of XEN007 as an adjunctive treatment in pediatric patients diagnosed with treatment-resistant childhood absence epilepsy, or CAE. Interim data from the ongoing XEN007 CAE study with a small number of patients are very promising, with all three CAE subjects having completed their maintenance phase of dosing and exhibiting a significant reduction in seizures as measured by seizure diary and confirmed by EEG. We expect topline results from a larger data set will be available by the middle of next year."

Dr. Mary Connolly, Principal Investigator and Director of the Epilepsy Program at BC Children's Hospital, stated, "We are excited by these preliminary results, which showed that treating CAE patients with XEN007 showed a greater than 50% reduction in diary recorded seizures in all three CAE patients, with two of those patients showing a greater than 80% reduction. Our hope is that this study will generate useful data that support the development of XEN007 as a potential new therapeutic approach for CAE, especially for those who do not respond to the treatments currently available or who experience adverse effects which could be drug or dose limiting."

Highlights from a poster entitled "Early Data from a Phase 2 Open Label Study of XEN007 (Flunarizine) for Treatment Resistant Absence Seizures" can be summarized as follows:

- XEN007 was well tolerated and resulted in greater than 50% reduction in diary recorded seizures in all three CAE patients, with two showing greater than 80% reduction. EEGs for the three CAE subjects showed complete resolution of absence seizures for two subjects and 94% reduction for one.
- There were two patients enrolled in the study with a different form of absence epilepsy, Jeavons Syndrome, who did not respond to XEN007. All future patient enrollment will focus on CAE given the promising responses seen to date.
- XEN007 showed a good tolerability profile with no serious AEs noted.
- This evidence suggests that XEN007 could be a meaningful treatment for treatment resistant CAE patients experiencing persistent absence seizures.

All of Xenon's posters presented at AES2020 related to its proprietary programs will be made available on the Xenon website and include:

- A poster entitled "Pre-clinical *In Vitro* and *In Vivo* Comparison of the Kv7 Activator XEN1101 with Ezogabine" presented pre-clinical data demonstrating that XEN1101 has a similar mechanism of action to ezogabine but potentially offers substantial improvements, including: more potent modulation of Kv7.2/Kv7.3; slowed deactivation of Kv7.2/7.3 channels to a greater degree, enhancing its ability to reduce hyper excitability; more potent anti-seizure activity in preclinical models; and no pigmented dimers and no predicted discoloration liability.
- A poster entitled "Pharmacokinetic (PK) and Food Effect Assessment of XEN496, a Pediatric Formulation of Ezogabine, in Healthy Adults and Retrospective PK and Safety Comparison with Potiga®" presented data demonstrating that XEN496 was generally safe and well-tolerated and its overall PK profile was comparable to that of ezogabine.
- A poster entitled "Selective Potentiation of Inhibitory Networks Prevents Seizures in a Mouse Model of Dravet Syndrome" presented pre-clinical data that suggests brain penetrant small molecule enhancers of Nav1.1 currents may represent a new, mechanistically differentiated, class of voltage-gated sodium channel potentiators with the potential to provide an improved therapeutic profile for the treatment of Dravet Syndrome.

In addition, a number of posters were presented at AES2020 related to Xenon's ongoing collaboration with Neurocrine Biosciences, which has an exclusive license to XEN901, now known as NBI-921352, a clinical stage selective Nav1.6 sodium channel inhibitor with potential in SCN8A developmental and epileptic encephalopathy (SCN8A-DEE) and other forms of epilepsy:

- A poster entitled “An Online Survey of Caregivers for Patients with SCN8A Developmental and Epileptic Encephalopathy (SCN8A-DEE) or SCN8A-Related Epilepsy” concluded that patients with SCN8A-DEE or SCN8A-related epilepsy had high seizure burden, multiple neurologic and motor comorbidities, and inadequate treatment. The high proportion of patients who previously tried and stopped various medications indicated general dissatisfaction with current treatment options, suggesting ongoing unmet therapeutic needs in this heterogeneous patient population.

- A poster entitled “Potential Drug-Drug Interactions Between NBI-921352/XEN901 (a Novel Nav1.6 Selective Sodium Channel Blocker) and a Strong Inducer of CYP3A4 (Phenytoin) in Healthy Volunteers” presented data from a study that evaluated the effect of phenytoin on the PK of NBI-921352 and concluded that there was no apparent impact on safety observed when NBI-921352 was co-administered with phenytoin.

- A poster entitled “Pharmacokinetics, Food Effect, and Relative Bioavailability of Two Formulations of NBI-921352/XEN901 (Novel Nav1.6-Selective Sodium Channel Blocker) in Healthy Adults: Pediatric Granules and Adult Tablets” presented PK data that indicated that the pediatric granule formulation of NBI-921352 was bioequivalent to the immediate-release adult tablet after single-dose administration in the fasted state. In addition, the administration of the pediatric granule formulation of NBI-921352 in the fed state (with a high-fat meal) delayed the rate, but not the extent, of absorption when compared to the fasted state. The favorable PK of the pediatric formulation suggest this formulation is suitable for further clinical development of NBI-921352 in pediatric patients with SCN8A-DEE.

About Xenon Pharmaceuticals Inc.

We are a clinical stage biopharmaceutical company committed to developing innovative therapeutics to improve the lives of patients with neurological disorders. We are advancing a novel product pipeline of neurology therapies to address areas of high unmet medical need, with a focus on epilepsy. For more information, please visit www.xenon-pharma.com.

Safe Harbor Statement

This press release contains 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, and the Private Securities Litigation Reform Act of 1995 and Canadian securities laws. These forward-looking statements are not based on historical fact, and include statements regarding the timing of and results from clinical trials and pre-clinical development activities, including those related to XEN496, XEN1101, XEN007, and other proprietary products, and those related to partnered product candidates; the potential efficacy, safety profile, future development plans, addressable market, regulatory success and commercial potential of XEN496, XEN1101, XEN007 and other proprietary and partnered product candidates; the efficacy of our clinical trial designs; our ability to successfully develop and achieve milestones in the XEN496, XEN1101, XEN007 and other proprietary development programs; the potential to advance certain of our product candidates into later stage clinical trials; anticipated enrollment in our clinical trials and the timing thereof; the progress and potential of our other ongoing development programs; and the timing of potential publication or presentation of future clinical data. These forward-looking statements are based on current assumptions that involve risks, uncertainties and other factors that may cause the actual results, events, or developments to be materially different from those expressed or implied by such forward-looking statements. These risks and uncertainties, many of which are beyond our control, include, but are not limited to: the impact of the COVID-19 pandemic on our business, research and clinical development plans and timelines and results of operations, including impact on our clinical trial sites, collaborators, and contractors who act for or on our behalf, may be more severe and more prolonged than currently anticipated; clinical trials may not demonstrate safety and efficacy of any of our or our collaborators’ product candidates; our ongoing discovery and pre-clinical efforts may not yield additional product candidates; promising results from trials involving a small number of patients may not be replicated in subsequent, larger trials; any of our or our collaborators’ product candidates may fail in development, may not receive required regulatory approvals, or may be delayed to a point where they are not commercially viable; we may not achieve additional milestones in our proprietary or partnered programs; regulatory agencies may impose additional requirements or delay the initiation of clinical trials; regulatory agencies may be delayed in reviewing, commenting on or approving any of our or our collaborators’ clinical development plans as a result of the COVID-19 pandemic, which could further delay development timelines; the impact of competition; the impact of expanded product development and clinical activities on operating expenses; impact of new or changing laws and regulations; adverse conditions in the general domestic and global economic markets; as well as the other risks identified in our filings with the Securities and Exchange Commission and the securities commissions in British Columbia, Alberta and Ontario. These forward-looking statements speak only as of the date hereof and we assume no obligation to update these forward-looking statements, and readers are cautioned not to place undue reliance on such forward-looking statements.

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