Positive Preclinical Data from Xenon's XEN901 Epilepsy Program to be Presented at the 71st American Epilepsy Society Annual Meeting

December 4, 2017

Data Suggest Xenon's Selective Nav1.6 Sodium Channel Inhibitor, XEN901, Provides Efficacy with a Potentially Improved Safety Profile over Other Non-Selective, Sodium Channel Blocker Anti-Epileptic Drugs (AEDs)

BURNABY, British Columbia, Dec. 04, 2017 (GLOBE NEWSWIRE) -- Xenon Pharmaceuticals Inc. (NASDAQ:XENE), a clinical-stage biopharmaceutical company, today announced the presentation of a scientific poster entitled "Selective Inhibitors Suggest Nav1.6 Activity is the Primary Driver of Efficacy for Voltage-Gated Sodium Channel Targeted AEDs" at the 71st American Epilepsy Society (AES) Annual Meeting in Washington, D.C.

XEN901 is a potent, selective Nav1.6 sodium channel inhibitor being developed by Xenon for the treatment of epilepsy, including treatment resistant adult focal seizures and rare, pediatric forms of epilepsy, such as EIEE13, an early infantile epileptic encephalopathy associated with mutations in the SCN8A gene and gain-of-function in the Nav1.6 sodium channel.

Dr. Simon Pimstone, Xenon's President and Chief Executive Officer, said, "Non-selective sodium channel blockers, such as phenytoin, carbamazepine, lacosamide, and lamotrigine, have been the mainstay of treatment of patients with focal seizures for decades. However, these non-selective sodium channel blockers also inhibit other channels, leading to well recognized side effects associated with their use, limiting dose titration required to achieve maximal efficacy. With XEN901, we believe we have developed the first highly *selective* blocker of Nav1.6, the most abundantly expressed sodium channel in the neuroexcitatory pathways in the central nervous system. We anticipate that our approach with XEN901 to selectively inhibit the Nav1.6 channel has the opportunity to provide robust clinical efficacy along with an improved safety profile."

Xenon has examined XEN901 in preclinical models of both genetically defined and more general types of epilepsy. These studies showed that XEN901 demonstrated efficacy against seizures in both the MES model, which is designed to be predictive of adult focal seizures and an SCN8A Nav1.6 genetic gain-of-function model, which is designed to be predictive of the pediatric genetic epilepsy EIEE13. When compared to phenytoin in the SCN8A model, XEN901 achieved the same degree of efficacy as phenytoin at one thousand fold lower brain exposures.

Xenon expects to file an investigational new drug equivalent application in the fourth quarter of 2017 in order to initiate clinical development for XEN901 and, if supported by the data, expects to initiate a Phase 2 clinical trial in late 2018.

About Xenon Pharmaceuticals Inc.

Xenon is a clinical stage biopharmaceutical company focused on developing innovative therapeutics to improve the lives of patients with neurological disorders. Building upon our extensive knowledge of human genetics and diseases caused by mutations in ion channels, known as channelopathies, we are advancing – both independently and with our pharmaceutical collaborators – a novel product pipeline of ion channel modulators to address therapeutic areas of high unmet medical need, such as pain and 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 and Section 21E of the Securities Exchange Act of 1934 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 anticipated timing of IND or IND equivalent submissions with regulatory agencies, the initiation of future clinical trials, the timing of and results from our and our collaborators' ongoing clinical trials and pre-clinical development activities, the potential efficacy, future development plans and commercial potential of our and our collaborators' product candidates, including XEN901, and the progress and potential of ongoing development programs. 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: clinical trials may not demonstrate safety and efficacy of any of our or our collaborators' product candidates; 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; the impact of competition; 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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