



## **Aptinyx Presents Data Demonstrating Positive Activity of NYX-458 on Cognitive Performance and Biomarkers in a Preclinical Model of Head Injury**

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EVANSTON, Ill., Aug. 21, 2019 (GLOBE NEWSWIRE) -- Aptinyx Inc. (Nasdaq: APTX), a clinical-stage biopharmaceutical company developing transformative therapies for the treatment of brain and nervous system disorders, today announced the presentation of preclinical data on its novel NMDA receptor modulator, NYX-458. The product candidate demonstrated positive recovery of performance on affective and spatial learning tasks that was impaired in a preclinical model of repeat closed head injury. In biomarker readings, NYX-458 also restored neuroendocrine function following disruption due to repeat closed head injury. These data will be exhibited in a poster presentation today at the 2019 Military Health System Research Symposium (MHSRS) in Kissimmee, Florida.

"Traumatic brain injury often results in cognitive impairment and mood disturbances that have a significant impact on a person's daily living and, unfortunately, there are very few treatment options available today to address these long-term effects adequately," said Cassia Cearley, Ph.D., vice president of research at Aptinyx. "Building upon what we already know about NYX-458's reversal of cognitive deficits in a non-human primate model of [cognitive impairment in Parkinson's disease](#), we are very encouraged by the strength of the data being presented at MHSRS in a model of head injury. These data exhibit the robust activity of NYX-458 on both cognitive performance and validated biomarkers of traumatic brain injury. The results augment the scientific foundation supporting our development of this product candidate for the treatment of cognitive impairment arising from a number of underlying conditions."

The presented studies evaluated the effects of NYX-458 in a repeat closed head injury preclinical model. The cognitive and emotional deficits observed in the model are reflective of those observed in humans that have experienced repeated traumatic brain injury. In addition to evaluating behavioral effects, this model enables the evaluation of biomarkers, including protein and hormone changes, also associated with head injury.

### **Cognitive Performance Observations:**

To evaluate the behavioral effects of NYX-458, two different models were used to observe performance on both spatial and affective learning tasks in rodents. In both models, Y-Maze and Positive Emotional Learning, performance was significantly impaired following repeat closed head injury. Administration of NYX-458 resulted in performance on both of these cognitive tasks that was statistically significantly better than performance following administration of vehicle.

### **Biomarker Observations:**

The presented data show that repeat closed head injury resulted in activation of glial fibrillary acidic proteins (GFAP); mirroring data found in other traumatic brain injury models. Closed head injury also resulted in transient decreases in GluN2A and GluN2B subunits of the NMDA receptor. NYX-458, which has been shown preclinically to positively modulate NMDA receptors, may be well suited to address this observed NMDA receptor hypofunction, warranting further preclinical and clinical evaluation.

Neuroendocrine changes, including reduced growth hormone and increased corticosterone levels, were also observed following repeat closed head injury. In the model presented, NYX-458 administration restored normal levels of corticosterone and growth hormone.

Overall, the presented cognitive behavioral and biomarker data further support the evaluation of NYX-458 in human clinical studies in cognitive impairment. The results indicate the potential utility of NYX-458 in addressing both the cognitive impairment and the underlying disease processes associated with repeated traumatic brain injury and other neurodegenerative conditions.

### **Poster Presentation Details:**

**Presentation Title:** A Novel NMDA Receptor Modulator, NYX-458, Shows Therapeutic Potential for Cognitive Impairment Associated with TBI in Rats (Poster Number: 498)

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### **About NYX-458**

NYX-458 is a novel oral NMDA receptor modulator currently in clinical development for the treatment of cognitive impairment associated with Parkinson's disease. NYX-458 has been shown to reverse cognitive deficits in non-human primates in a model that is highly translatable to Parkinson's disease in humans. Additionally, NYX-458 has been shown to improve cognitive performance across various models of neurodegeneration. In a Phase 1 clinical study, NYX-458 exhibited a favorable safety and tolerability profile across a wide dose range and achieved CNS exposure in line with exposure observed with efficacious preclinical dose levels.

### **About Aptinyx**

Aptinyx Inc. is a clinical-stage biopharmaceutical company focused on the discovery, development, and commercialization of proprietary synthetic small molecules for the treatment of brain and nervous system disorders. Aptinyx has a platform for discovery of novel compounds that work through a unique mechanism to modulate—rather than block or over-activate—NMDA receptors and enhance synaptic plasticity, the foundation of neural cell communication. The company has three product candidates in clinical development in central nervous system indications, including chronic pain,

post-traumatic stress disorder, and cognitive impairment associated with Parkinson's disease. Aptinix is also advancing additional compounds from its proprietary discovery platform, which continues to generate a rich and diverse pipeline of small-molecule NMDA receptor modulators with the potential to treat an array of neurologic disorders. For more information, visit [www.aptinix.com](http://www.aptinix.com).

#### **Forward-Looking Statements**

*Statements contained in this press release regarding matters that are not historical facts are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Such statements include, but are not limited to, statements regarding the company's business plans and objectives, including future plans or expectations for the company's product candidates, therapeutic effects of the company's product candidates, expectations regarding the design, implementation, timing, and success of its current and planned clinical studies, and expectations regarding its uses and sufficiency of capital. Risks that contribute to the uncertain nature of the forward-looking statements include: the success, cost, and timing of the company's product candidate development activities and planned clinical studies; the company's ability to execute on its strategy; positive results from a clinical study may not necessarily be predictive of the results of future or ongoing clinical studies; regulatory developments in the United States and foreign countries; as well as those risks and uncertainties set forth in the company's most recent Annual Report on Form 10-K and subsequent filings with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made. Aptinix undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.*

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