



NEWS RELEASE

Aptinyx Announces Publication in Molecular Psychiatry Demonstrating Reduction of Spontaneous Recovery of Fear with NYX-783

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Preclinical data support the continued clinical development of NYX-783 as a novel mechanistic approach for treating post-traumatic stress disorder (PTSD)

NYX-783 is currently under evaluation in a Phase 2b study in patients with PTSD

EVANSTON, Ill.,--(BUSINESS WIRE)-- Aptinyx Inc. (Nasdaq: APTX), a clinical-stage biopharmaceutical company developing transformative therapies for the treatment of brain and nervous system disorders, today announced that data from preclinical studies evaluating NYX-783, a novel NMDA receptor positive allosteric modulator, in models of post-traumatic stress disorder (PTSD) were published in the journal, *Molecular Psychiatry*.

The publication, entitled "Positive modulation of N-methyl-D-aspartate receptors in the mPFC reduces the spontaneous recovery of fear," details the ability of NYX-783 to reduce fear-based behaviors in animal models of PTSD by measuring enhanced fear extinction and reduced spontaneous recovery (i.e., return) of fear. NYX-783 significantly reduced spontaneous recovery of fear in mice in the conventional auditory fear-conditioning model. NYX-783 also reduced spontaneous recovery in the single-prolonged stress model of PTSD. These data suggest NYX-783 can inhibit the spontaneous recovery of learned fear even after exposure to an additional significant stressor.

The inhibition of spontaneous recovery of learned fear by NYX-783 results from increased NMDAR2B-mediated activity of neurons in the infralimbic medial prefrontal cortex. These results elucidate the cellular targets of NYX-783

and the molecular mechanisms underlying the inhibition of spontaneous recovery.

These preclinical findings indicate NYX-783 may be particularly useful for inhibiting spontaneous recovery of fear and provide further support for the drug candidate's therapeutic potential as a treatment for PTSD.

The study was led by Boyoung Lee, Ph.D., of the Center for Cognition and Sociality at the Institute for Basic Science, Republic of Korea, while working with the late Ronald Duman, Ph.D., at the Department of Psychiatry, Yale School of Medicine. The full publication can be accessed [here](#).

"We are very excited by these data as they underscore the potential of NYX-783 to treat the dysfunction of emotional control in post-traumatic stress disorder," said Amanda Barth, Ph.D., Senior Director of Research at Aptinyx. "These preclinical models are highly relevant to PTSD and suggest the novel mechanism of NYX-783 can enhance fear extinction learning impaired by NMDA receptor hypofunction. We believe these findings can be translated to clinical benefit in humans and look forward to continuing development of NYX-783 in our ongoing Phase 2b study in PTSD."

About Post-Traumatic Stress Disorder

Approximately fifteen million adults in the United States suffer from PTSD in a given year, which is characterized by intrusive symptoms, avoidance, negative alteration in cognition and mood, hyperarousal, and/or arousal alterations following the experience of trauma. PTSD can result from various forms of trauma, including combat exposure, car accidents, sexual or other physical assault, abuse, natural disasters, and others. The lifetime prevalence of PTSD is approximately seven percent in the general population but is much higher in populations at risk for exposure to trauma, such as military service members and first responders. In addition to the challenges associated with the direct symptoms, PTSD sufferers have a higher rate of suicide and often struggle with simultaneous addiction, leading to an even greater social and economic burden of the disorder. Available therapeutic options are limited in treating PTSD, including only two approved conventional SSRI antidepressants, which have limited efficacy, undesirable side effects, and target only the symptoms of PTSD, not the underlying disorder itself.

About NYX-783

NYX-783 is a novel, oral, positive allosteric modulator of NMDA receptors currently in Phase 2 development for the treatment of post-traumatic stress disorder (PTSD). In preclinical studies of NYX-783, particularly strong results were observed in psychiatric models, models of fear extinction, and models of substance abuse. In a Phase 1 clinical study of NYX-783, ample central nervous system exposure was observed and the product candidate demonstrated a favorable adverse event and tolerability profile, with no serious adverse effects, across a wide dose range. In an exploratory Phase 2a study in patients with PTSD, patients receiving a 50 mg dose level of NYX-783

showed meaningful symptom improvements and rates of response. The U.S. Food and Drug Administration has granted Fast Track designation to the development of NYX-783 for the treatment of PTSD.

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 fibromyalgia, post-traumatic stress disorder, and cognitive impairment associated with Parkinson’s disease and dementia with Lewy bodies. Aptinyx 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.aptinyx.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 NYX-783, therapeutic effects of the company’s product candidates, expectations regarding the design, implementation, timing, and success of its current and planned clinical trials, expectations regarding its preclinical development activities, 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; 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 in its other filings and reports with the United States Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made. Aptinyx 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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