Newleos Therapeutics Announces Poster Presentation to be Featured at the 2025 World Congress of Biological Psychiatry

– Results of preclinical studies on selective $GABA_A$ γ1 positive allosteric modulators (PAMs) in anxiety models support further clinical development of NTX-1955 –

BOSTON – September 9, 2025 – Newleos Therapeutics, Inc., a clinical-stage biotechnology company developing innovative treatments for neuropsychiatric disorders, today announced the presentation of a poster related to the company's first-in-class $GABA_A$ γ1 positive allosteric modulator (PAM), NTX-1955, at the 17th World Congress of Biological Psychiatry (WCBP). Organized by the World Federation of Societies of Biological Psychiatry, WCBP is taking place September 9-12 in Berlin, Germany. Newleos is conducting two Phase 1b studies in the European Union (EU) to assess the pharmacology and proof-of-mechanism for NTX-1955 in Generalized Anxiety Disorder (GAD).

The presentation highlights for the first time groundbreaking preclinical work that led to the discovery of selective $GABA_A$ γ1 PAMs. These studies demonstrated that $GABA_A$ γ1 PAMs have high affinity and functional selectivity for the γ1 subunit-containing $GABA_A$ receptor, unlike classical benzodiazepines, a class of anxiety medications that target γ2 subunit-containing $GABA_A$ receptors and are limited by their side effects. *Ex-vivo* electrophysiological studies demonstrated effective positive allosteric modulation by $GABA_A$ γ1 PAMs of inhibitory synapses in the amygdala, a key node in the brain regulating anxiety. Receptor occupancy studies using a novel γ1-selective radioligand confirmed dose-dependent target binding in the amygdala. Additionally, functional imaging studies revealed distinct, large-scale neural activity changes induced by $GABA_A$ γ1 PAMs indicative of a superior molecular profile relative to other $GABA_A$ receptor potentiators. In well-established behavioral assays, $GABA_A$ γ1 PAMs exhibited dose-dependent efficacy, reducing anxiety-like behavior without the side effects commonly associated with γ2-targeting benzodiazepines, including sedation, cognitive and motor impairment, among others.

Federico Bolognani, M.D., Ph.D., Co-Founder and Chief Medical Officer at Newleos and a co-author on the presentation, commented, "The discovery of the first selective and potent $GABA_A$-γ1 PAMs represents a meaningful advance toward potential next-generation treatments for anxiety. With NTX-1955, Newleos is developing the first clinical-stage modulator of $GABA_A$-γ1 receptors in the amygdala—the brain region most directly linked to anxiety—aimed at delivering the powerful anxiolytic benefits of benzodiazepines without the drawbacks of sedation, cognitive impairment, or dependence. We look forward to presenting results from our ongoing clinical studies at upcoming industry meetings."

WCBP Poster Presentation:
Poster Number: W36

Title: ***A Novel Approach for Anxiety Treatment: Discovery of Selective $GABA_A$ γ1 Positive Allosteric Modulators for Targeted Modulation of Extended Amygdala Circuits***
Presenting Author: Maria-Clemencia Hernandez, Ph.D., Pharma Research and Early Development (pRED), Roche
Poster Session I, Wednesday, September 10, 6:15-7:45 p.m. CET
WCBP abstracts may be accessed online here.

About NTX-1955
NTX-1955 is a first-in-class $GABA_A$ γ1 positive allosteric modulator (PAM). Newleos licensed NTX-1955 from Roche and is conducting two Phase 1b studies in the European Union (EU) to assess the pharmacology and proof-of-mechanism for NTX-1955 in Generalized Anxiety Disorder (GAD). $GABA_A$ is the major inhibitory neurotransmitter in the brain and positive allosteric modulation of the $GABA_A$ receptor is a well-validated approach for managing GAD symptoms. Nonselective $GABA_A$ PAMs such as benzodiazepines, while robust anxiolytics, modulate $GABA_A$ receptors throughout the entire brain, including in brain regions that lead to cognitive and sedative side effects. In contrast, NTX-1955 is designed to selectively engage GABAergic transmission in the amygdala, which is at the center of the brain's regulation of anxiety and highly enriched for the $GABA_A$ γ1 receptor subunit, thereby sparing brain networks associated with the safety liabilities of benzodiazepines.

NTX-1955 has shown dose-dependent anxiolytic activity in several gold-standard preclinical models used in anxiety research matching benzodiazepines' efficacy without the side effect profile seen with classical benzodiazepines. Further, NTX-1955 has completed multiple Phase 1 studies, including Single Ascending Dose, Multiple Ascending Dose, drug-drug interaction, and receptor occupancy studies, demonstrating that it is safe, well tolerated, brain penetrant and selective to $GABA_A$ γ1.

In July 2025, Newleos announced the filing of clinical trial applications (CTAs) with the competent health authorities for two Phase 1b studies of NTX-1955 to be conducted in the European Union (EU). Dosing has already commenced for one of the studies. Both studies will utilize a well-established, controlled, and reproducible clinical model to assess the anxiolytic effects of NTX-1955, as well as other tests designed to measure a wide range of central nervous system (CNS) effects in a pharmacological context.

About Newleos Therapeutics, Inc.
Newleos Therapeutics is dedicated to providing a new dawn or "eos" for the one in every eight people around the world who are suffering from mental illness. The company's pipeline was licensed from Roche and focuses on innovative neuropsychiatric mechanisms of action that aim to reduce side effects and improve outcomes compared to the current standard of care. Newleos' clinical-stage, oral small molecules target $GABA_A$-γ1, V1a, TAAR1 and $GABA_A$-α5, with first- or best-in-class potential in the treatment of general anxiety, social anxiety, substance use disorders, and cognitive impairment. Newleos was co-founded by Longwood Fund, Federico Bolognani, M.D., Ph.D., and William Martin, Ph.D., seasoned experts in company creation and CNS drug development.

For more information visit www.newleos.com.

Media Contact:
Kari Watson
617-470-8388
media@newleos.com