Virpax Pharmaceuticals Announces Poster Presentation for Envelta™ at PAINWeek 2021

--Company's Enkephalin Product under Development--

BERWYN, PA, September 2, 2021 — Virpax® Pharmaceuticals, Inc. ("Virpax" or the "Company") (NASDAQ:VRPX), today announced it will present a poster on Leucine Enkephalin as a potential analgesic at PAINWeek 2021, being held on September 7-11, 2021 at The Cosmopolitan in Las Vegas, NV.

The following poster from Virpax will be presented on Thursday, September 9th from 6:30 p.m. – 8:30 p.m. PST:

Title: Enkephalin as a Potential Analgesic and CNS Modulator
Presenter: Jeffrey A. Gudin, MD, EVP, Chief Medical Officer of Virpax Pharmaceuticals

Abstract ID: 1090715 Poster No.: 29

For further information, please visit https://www.painweek.org/

"Drug overdose deaths in the U.S. rose nearly 30% in 2020. The Helping to End Addiction Long-term Initiative, or NIH HEAL Initiative, is supporting scientific solutions to stem the national opioid public health crisis," stated Jeffrey Gudin, MD, co-founder and EVP, Chief Medical Officer of Virpax. "Our research is being funded through a collaborative research and development agreement with the National Institutes of Health-National Center for Advancing Translational Sciences (NIH-NCATS). I am delighted to serve as principal investigator for this promising molecule with multiple actions in the central and peripheral nervous system. To date, animal trials for Envelta have demonstrated comparable analgesia versus morphine without the development of opioid tolerance, respiratory depression, euphoria, or drug seeking behavior associated with the use of morphine," concluded Dr. Gudin.

About Envelta™

Envelta™ is an investigational intranasal formulation intended to improve enkephalin transport to the brain. Enkephalin is a naturally occurring (endogenous) peptide that is not easily administered in its original form. Envelta™ uses a preassembled device and cartridge to propel the enkephalin formulation through the nose to the brain by flowing along the olfactory nerve pathway. The Molecular Envelope Technology is designed to protect the drug and help carry it to the brain, enabling it to cross the blood-brain barrier to suppress pain by binding to the delta-opioid receptors. Envelta™ has demonstrated analgesic potential in animal models without developing opioid tolerance, withdrawal, respiratory depression, euphoria, or addiction associated with the use of morphine. Once the Envelta IND enabling studies are submitted to the FDA, the data may be cross-referenced to our cancer pain and PTSD INDs.

About Virpax Pharmaceuticals

Virpax is developing branded, non-addictive pain management product candidates using its proprietary technologies to optimize and target drug delivery. Virpax is initially seeking FDA approval using its three

patented drug delivery platforms. Epoladerm™ is a topical diclofenac metered-dose spray film formulation being developed to manage localized musculoskeletal pain and osteoarthritis. Probudur™ is a single injection liposomal bupivacaine formulation being developed to manage post-operative pain. Envelta™ is an intranasal molecular-envelope enkephalin formulation being developed to manage acute and chronic pain, including pain associated with cancer. Virpax is also using its intranasal Molecular Envelope Technology (MET) to develop its PES200 product candidate to manage post-traumatic stress disorder (PTSD) and its MMS019 product candidate to inhibit viral replication caused by influenza or SARS-CoV-2. For more information, please visit www.virpaxpharma.com.

Forward-Looking Statement

This press release contains certain 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 Private Securities Litigation Reform Act, as amended, including those relating to the Company's planned clinical trials, product development, clinical and regulatory timelines, market opportunity, competitive position, possible or assumed future results of operations, business strategies, potential growth opportunities and other statements that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions.

These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "intend," "plan," "believe," "estimate," "potential," "predict," "project," "should," "would" and similar expressions and the negatives of those terms. These statements relate to future events or our financial performance and involve known and unknown risks, uncertainties, and other factors, including the potential impact of the recent COVID-19 pandemic and the potential impact of sustained social distancing efforts, on the Company's operations, clinical development plans and timelines, which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's filings with the Securities and Exchange Commission. Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this press release. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

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