Virpax Begins IND Enabling Studies of Envelta™

WEST CHESTER, PA, February 23, 2021 — Virpax® Pharmaceuticals Inc. ("Virpax" or the "Company") (NASDAQ:VRPX), today announced that according to the Cooperative Research and Development Agreement ("CRADA") entered into between Virpax and the National Center for Advancing Translational Sciences ("NCATS"), an institute/center of the National Institutes of Health ("NIH"), U.S. Department of Health and Human Services, the NCATS has begun the Investigational New Drug ("IND") enabling studies of Envelta™ for Virpax to support Virpax's future application for clearance from the FDA to initiate its first-in-human ("FIH") clinical trials.

Anthony P. Mack, Chairman and CEO of Virpax stated, "The commencement of these critical pre-clinical studies takes us one step closer to the clinic. Dr. Jeffrey Gudin, principal investigator and co-founder of Virpax, has been working in partnership with the NCATS since we announced the CRADA in August 2020. We believe that the NIH/NCATS collaborative agreement will facilitate maintaining momentum for our team in both our pre-clinical and future clinical development strategies."

Envelta™ is an intranasal enkephalin drug product candidate formulation based on nanotechnology which enables the delivery of the drug product to the brain. Enkephalin is a naturally occurring (endogenous) peptide that is not easily administered in its original form. Envelta™ is an investigational formulation delivered via the nasal route with the potential to improve enkephalin transport to the brain. 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 and help carry the drug to the brain, crossing the blood brain barrier and suppressing 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 opioids.

About Virpax Pharmaceuticals

Virpax is developing branded, non-addictive pain management products 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 acute 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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