Virpax to Use Envelta™ IND Enabling Study Results for Two Additional Indications

BERWYN, PA / June 21, 2021 / Virpax® Pharmaceuticals, Inc. ("Virpax" or the "Company") (NASDAQ: VRPX), today announced that the Investigational New Drug (IND) Application enabling studies for Envelta™ being performed under a Cooperative Research and Development Agreement (CRADA) entered into by Virpax and the National Center for Advancing Translational Sciences (NCATS) for chronic pain, will also be used as a source for INDs for two additional indications, for cancer pain and Post-Traumatic Stress Disorder (PTSD). NCATS has commenced the IND enabling studies of Envelta to support Virpax's future application for clearance from the Food and Drug Administration (FDA) to initiate Virpax's first-in-human clinical trials.

Sheila Mathias, PhD, JD, Chief Scientific Officer of Virpax stated, "Once the Envelta IND enabling studies are submitted to the FDA for acute/chronic pain, the parent IND is expected to be used to cross reference for the PTSD IND. We believe the same Phase I Single Ascending Dose (SAD)/Multiple Ascending Dose (MAD) study could be used to advance all three indications. SAD and MAD studies are typically the first-in-human studies, where we seek to gain information on safety and tolerability, general pharmacokinetic (PK), and pharmacodynamic (PD) characteristics, and identify the maximum tolerated dose."

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 opioids. 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 products candidates using its proprietary technologies to optimize and target drug delivery. Virpax will initially seek 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, and PTSD. 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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