NEWS RELEASE

Virpax Pharmaceuticals Announces Results of Probudur™ Dose Escalation Studies

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BERWYN, Pa.--(BUSINESS WIRE)-- **Virpax® Pharmaceuticals, Inc.** (“Virpax” or the “Company”) (NASDAQ: VRPX), a company specializing in developing non-addictive products for pain management, post-traumatic stress disorder, central nervous system (CNS) disorders and anti-viral barrier indications, today announced results for two pre-clinical Probudur™ dose escalation studies.

The first study compared Probudur to Exparel® utilizing a planar incision model. Two doses of Probudur, at 3 mg and 6 mg, were administered to rats. The results demonstrated three times longer efficacy for Probudur than Exparel.

In the second study, two different formulations at the same dose of Probudur were compared to Exparel in rat incision models. In this study, Probudur demonstrated a four to five times longer effect than the comparable product.

“These IND enabling studies confirmed our results from earlier studies,” commented **Anthony P. Mack**, Chairman and CEO of Virpax Pharmaceuticals. “We only have a few additional studies to be performed and are on track to begin first-in-human trials of Probudur in 2024.”

Additional confirmational studies for efficacy, toxicity, and pharmacokinetics are ongoing with others planned in order for the Company to file an Investigational New Drug (IND) Application.

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 for two prescription drug candidates that employ two different patented drug delivery platforms. **Probudur™** is a single injection liposomal bupivacaine formulation being developed to manage post-operative pain and **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 two other product candidates. PES200 is a product candidate being developed to manage post-traumatic stress disorder (PTSD) and **NobrXiol™** is a product candidate being developed for the nasal delivery of a pharmaceutical-grade cannabidiol (CBD) for the management of rare pediatric epilepsy. Virpax recently acquired global rights to NobrXiol. Virpax has competitive cooperative research and development agreements (CRADAs) for all three of its prescription drug candidates, two with the National Institutes of Health (NIH) and one with the Department of Defense (DOD). Virpax is also seeking approval of two nonprescription product candidates: AnQlar, which is being developed to inhibit viral replication caused by influenza or SARS-CoV-2, and Epoladerm™, which is a topical diclofenac spray film formulation being developed to manage pain associated with osteoarthritis. For more information, please visit **virpaxpharma.com** and follow us on **Twitter**, **LinkedIn** and **YouTube**.

Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and Private Securities Litigation Reform Act, as amended, including those described below. 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 and include statements regarding the Company's anticipated studies for efficacy, toxicity and pharmacokinetics, the Company's filing of an IND Application, and the Company's anticipated first-in-human trials of Probudur™ in 2024. These statements relate to future events and involve known and unknown risks, uncertainties, and other factors, including the Company's ability to successfully complete research and further development and commercialization of Company drug candidates in current or future indications; the uncertainties inherent in clinical testing; the Company's ability to manage and successfully complete clinical trials and the research and development efforts for multiple product candidates at varying stages of development; the timing, cost and uncertainty of obtaining regulatory approvals for the Company's product candidates; the Company's ability to protect its intellectual property; the loss of any executive officers or key personnel or consultants; competition; changes in the regulatory landscape or the imposition of regulations that

affect the Company's product candidates; the Company's ability to continue to obtain capital to meet its long-term liquidity needs on acceptable terms, or at all, including the additional capital which will be necessary to complete clinical trials that the Company plans to initiate; and other factors listed under "Risk Factors" in our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q that the Company has filed with the U.S. 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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