Virpax Announces Results of Probudur™ in Animal Study

--Minimal Local Nerve Toxicity Demonstrated--

BERWYN, PA, April 5, 2021 — Virpax® Pharmaceuticals, Inc. ("Virpax" or the "Company") (NASDAQ:VRPX), a company specializing in developing pharmaceutical product candidates for pain management, today announced the results of a sciatic nerve preclinical study in rabbits designed to evaluate nerve damage from locally injected Probudur™, Virpax's liposomal bupivacaine product candidate.

"Local anesthetics can be neurotoxic, particularly in doses and concentrations larger than those used clinically. Also, the degree of neurotoxicity varies based on the drug and its proximity to nerves," commented Jeffrey Gudin, MD, Chief Medical Officer and co-Founder of Virpax. "We are pleased to report that Probudur™ produced no evidence of motor or sensory nerve damage at a dose that was 10 times higher than free bupivacaine, and that there were no signs of nerve damage. We plan to reference this data in our FDA Investigational New Drug Application (IND) briefing document."

The objective of this study was to assess neurotoxicity resulting from a long residence time of a local anesthetic in proximity to the sciatic nerve in rabbits. The rabbit limbs injected with free bupivacaine demonstrated signs of neurotoxicity with mild motor myelin damage. The rabbit limbs dosed with the liposomal prolonged bupivacaine release (Probudur™), at 10 times more than free bupivacaine, showed no signs of nerve damage. Further, nerves injected with Probudur™ showed mild signs of inflammation and small residues of the hydrogel in granulomas, indicating a long residence time of the hydrogel at the injection site, but no histopathological signs of nerve damage.

For more information on this study see: Bavli Y., Rabie M., Fellig Y., Nevo Y. and Barenholz Y., Liposomal Bupivacaine (Bupigel) Demonstrates Minimal Local Nerve Toxicity in a Rabbit Functional Model, *Pharmaceutics*, **13** (185), 2021, https://doi.org/10.3390/pharmaceutics13020185

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 acute musculoskeletal pain and osteoarthritis. Probudur™ is a single injection liposomal bupivacaine formulation being developed to manage postoperative 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 preclinical and 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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