Virpax Pharmaceuticals Provides Progress Update on Product Candidates

BERWYN, PA / July 7, 2021 / Virpax® Pharmaceuticals Inc. ("Virpax" or the "Company") (NASDAQ: VRPX), today is providing a progress update on its pipeline of product candidates following the Company's initial public offering (the "IPO") in mid-February of 2021.

Chairman and CEO Anthony P. Mack commented, "Our goal following our IPO was to become a clinical stage company as quickly as possible while preserving our cash and utilizing grants to fund product development efforts where appropriate. To date, I believe we have made solid progress towards these goals. We are making refinements to some formulations which we believe will improve manufacturability, and possibly extend patent life. We are also evaluating additional indications for our unique delivery technologies. Finally, we plan to begin initial Investigational New Drug Application ("IND") enabling studies shortly on several of our existing programs and recently submitted a pre-IND briefing document to the U.S. Food and Drug Administration ("FDA") for MMS019, our intranasal molecular masking spray."

Epoladerm™

Epoladerm is Virpax's metered-dose diclofenac spray film product candidate that is currently being evaluated for two indications, acute musculoskeletal pain and chronic osteoarthritis of the knee pain (OSF200). The Company will begin a series of IND enabling toxicity studies which are expected to take from eight months to one year to complete. Upon successful completion of these studies, the Company intends to submit an IND application to the FDA, including a trial design for a Phase I study.

For the chronic osteoarthritis pain of the knee indication, Virpax is planning to conduct a Phase I study to evaluate the relative bioavailability, pharmacokinetics, and safety of its product candidate, OSF200, compared with Pennsaid topical solution. No date for trial initiation or timeline has been determined for OSF200 at this time.

Probudur™

Probudur is Virpax's injectable bupivacaine liposomal hydrogel for postoperative pain management, which we believe to have improved onset and extended duration of action compared to existing treatment options. Charles River Laboratories has been engaged to perform seven preclinical animal studies during the second half of 2021, including method, dosage, and toxicity as part of the required FDA enabling trials for an IND for Probudur. However, the Company has elected to strategically delay these trials in order to enhance the formulation of Probudur to increase stability for manufacturing purposes and to possibly extend the lifetime of a relevant patent.

Envelta™

Envelta is Virpax's endogenous enkephalin intranasal spray for acute and chronic pain, including pain associated with cancer. The IND enabling studies for Envelta are being performed under a Cooperative Research and Development Agreement ("CRADA") entered into by Virpax and the National Center for Advancing Translational Sciences ("NCATS"). The Company recently announced that it intends to use these studies as a source for INDs for two additional potential indications, cancer pain and Post-Traumatic Stress Disorder. To date, 2 of the 4 planned initial in vitro studies have been successfully completed. These pre-clinical studies under the CRADA will be conducted through 2021 and early 2022.

MMS019

MMS019 is Virpax's high-density intranasal molecular masking spray being developed as an anti-viral barrier that will be used as an adjuvant to barrier-based personal protective equipment. The Company recently announced that results from an animal study of MMS019 demonstrated inhibited viral replication and decreased levels of virus in animal brain tissue. Virpax engaged Syneos Health to assist with the regulatory pathway and drug development trials required to file an NDA for FDA approval. The Company has submitted a pre-IND briefing package to the FDA.

"We remain excited about the opportunities that we have ahead of us. We will be providing additional newsworthy information through our filings with the SEC or through news releases," concluded Mr. Mack.

About Virpax Pharmaceuticals

Virpax is developing branded, non-addictive pain management product candidates using its proprietary technologies that optimize 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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