# Verndari, Inc. Announces Publication in the Journal *Vaccine* of Early Data Using VaxiPatch™ Vaccine System to Administer Flu Vaccine

- *VaxiPatch™ microneedle dermal patch is part of a novel vaccination system comprised of subunit antigens and adjuvants*

- *Preclinical data showed use of VaxiPatch™ microneedle dermal patch with proprietary vaccine showed significantly higher immune response at much smaller dose compared with an existing influenza vaccine,*

- *Verndari VaxiPatch™ system is being developed for application across multiple diseases*

**Napa, CA, August 19, 2020** - Verndari, Inc., a biopharmaceutical company transforming vaccines with next generation vaccine science and delivery technology, announced today publication of preclinical data in *Vaccine* on its novel vaccination system using a microneedle dermal patch. The early study examined Verndari's proprietary influenza vaccine administered with its patented VaxiPatch™ technology. Results showed a significantly increased immune response compared with an existing influenza vaccine. The study is available online here.

"The Verndari VaxiPatch™ system holds the promise of enabling faster development of vaccines for new threats such as COVID-19 as well as more effective vaccines for existing viruses, such as influenza," Dr. Daniel R. Henderson, CEO of Verndari said. "VaxiPatch™ eliminates the need for refrigeration, a major cost factor and barrier to access throughout developing countries. By using microarray technologies that carry a temperature-stable vaccine, we can enable mass manufacturing, which is both cost effective and increases global access to these life-saving treatments."

Study Details

For the preclinical study, Verndari used novel formulations of genetically engineered, single, purified protein antigens or "subunits," along with novel formulations of adjuvants and its patented VaxiPatch™ microneedle array dermal patch. Verndari has created a single monovalent component of a quadrivalent seasonal flu vaccine that uses recombinant influenza hemagglutinin (rHA) as an antigen active ingredient for influenza

virus B/Colorado/06/2017. The rHA functions in the FDA-approved single radial immunodiffusion (SRID) potency test. Verndari's influenza vaccine configuration also allows the use of FDA-approved surrogate marker of influenza vaccine efficacy, the testing of the patient vaccine response by the hemagglutination inhibition test (HAI). This shortens clinical trial times to six weeks. Results showed that when compared with an existing influenza vaccine, Verndari obtained as much as a 15-fold higher immune response with 1/15 of the dose for the B/Colorado/06/2017 influenza strain.

The Verndari VaxiPatch™ Vaccination System

Verndari's unique VaxiPatch™ is a complete single-dose vaccination kit that uses a painless dermal patch with a microneedle array to deliver vaccines to the arm and can potentially be self-administered. Vaccine delivery to the skin rather than an intramuscular injection has advantages including production of a stronger immune response. It also holds the promise of allowing the use of a significantly smaller dose of vaccine as compared to the traditional injection. The novel system eliminates the need for refrigeration, facilitating a high-volume, automated manufacturing of vaccines. The technology can be used for both existing vaccines and new vaccines developed to meet emerging threats.

In addition to the preclinical study of its influenza vaccine, Verndari has developed a SARS-CoV-2 Recombinant Spike Receptor Binding Domain (RBD) Skin Patch Vaccine candidate that is currently undergoing preclinical testing in laboratories at the University of California, Davis, where Verndari is a member of the university's Venture Catalyst Program.

The vaccine uses the COVID-19 "spike" protein that enables the virus to infect human cells and contains Verndari's proprietary VAS 1.0 adjuvant to enhance the immune response and stimulate high levels of neutralizing antibodies. Early preclinical trials demonstrate an indication of antibodies that block the binding of the spike domain to receptors targeted by the virus. Preliminary preclinical results are expected in the third quarter of 2020. Subject to safety and efficacy success, as well as discussions with regulatory bodies, a Phase 1 clinical study would commence.

Verndari remains in ongoing discussions FDA for pre-IND submission for the VaxiPatch™ Vaccine System.

## About Verndari, Inc.

Verndari, Inc. was founded in 2015 with the goal of transforming global health through next generation vaccine development and delivery. The privately held company based in Napa, California, aims to treat existing and emerging diseases, including pandemic threats such as COVID19, with a rapid response vaccination kit. The single-dose vaccination kit has the potential to be shipped around the world to enable simple shelter-in-place inoculation using a microneedle patch placed on the back of the arm. Through innovation in vaccine science, Verndari aims to address many different diseases and to

save countless lives. For more information on Verndari, please visit https://verndariinc.com

## About *Vaccine*

*Vaccine* is the pre-eminent journal for those interested in vaccines and vaccination. It is the official journal of The Edward Jenner Society and The Japanese Society for Vaccinology and is published by Elsevier www.elsevier.com/locate/vaccine

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