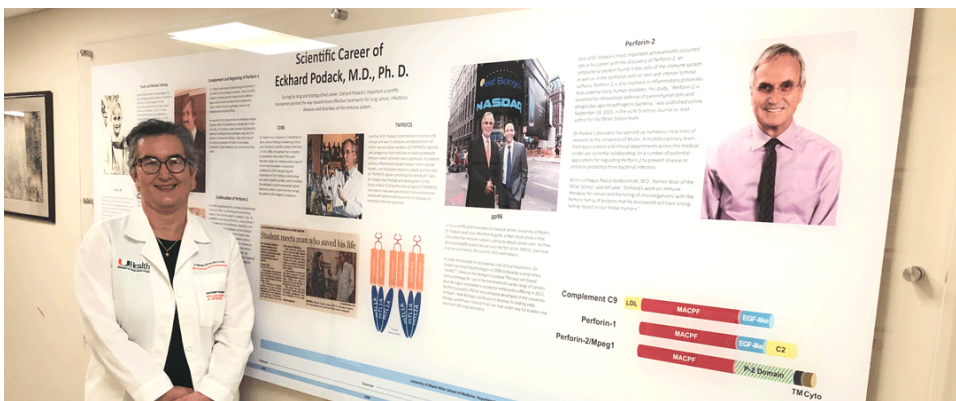


Miller School and Heat Biologics to Collaborate on COVID-19 Vaccine

Immunology researchers at the University of Miami Miller School of Medicine are collaborating with North Carolina-based Heat Biologics, Inc. to develop a vaccine for the novel coronavirus COVID-19.



Dr. Natasa Strbo standing in front of a poster with highlights of the scientific career of the late Dr. Eckhard Podack, whose lab developed the gp96 vaccine platform.

“We plan to leverage Heat Biologics’ proprietary vaccine platform to stimulate T-cell immune responses, which play a crucial role in protection against coronaviruses and clearing them from the body,” said Natasa Strbo, M.D., D.Sc., assistant professor of microbiology and immunology, who is leading the Miller School research team. “Our approach is designed to reprogram live cells to continually secrete antigens that activate a robust, long-term immune system response that could

protect against coronavirus strains across diverse human populations and against potential future mutations.”

Heat Biologics’ vaccine platform is based on the work of the late Eckhard Podack, M.D., Ph.D., former chair of the Miller School’s Department of Microbiology and Immunology. In the early 2000s, Dr. Podack studied the heat shock protein gp96 as a potential treatment for non-small cell lung cancer, and co-founded Heat Biologics in 2008. Since then, the gp96 protein has undergone rigorous testing in National Institutes of Health (NIH) and Department of Defense-funded laboratory trials as a vaccine against HIV, malaria and other infectious diseases, and has been tested on more than 300 patients in Heat-funded oncology trials.

Under the terms of the research collaboration, UM will develop and test one or more vaccine constructs utilizing the gp-96 vaccine backbone to express antigens associated with COVID-19.

“We are excited about our collaboration with the University of Miami to develop a gp96-based vaccine designed to prevent the spread of COVID-19,” said Jeff Wolf, CEO of Heat Biologics. “This powerful vaccine platform has been shown to induce a potent immune response, which may protect against COVID-19 and other highly-virulent infectious diseases. We look forward to advancing this important program.”

The gp96-based approach to vaccine development avoids potential issues associated with attenuated live viral vaccines, according to Dr. Strbo, who has spent many years advancing the gp96 platform as a vaccine against HIV, malaria, Zika and other infectious diseases.

“Mucosal airway memory immune system responses are crucial in the protection against respiratory viruses such as COVID-19, since these areas are the first to encounter the virus,” Dr. Strbo said. “The current gp96-based vaccines have demonstrated effectiveness in the induction of mucosal immunity in laboratory models, supporting the broader use of the vaccine platform against other viruses attacking the mucosal tissues, such as COVID-19.”