

## NEWS RELEASE

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### **OU Health Sciences Center Partners With Pure MHC on COVID-19 Vaccine Project**

**OKLAHOMA CITY, OK AND AUSTIN, TX** – The University of Oklahoma Health Sciences Center has launched a research collaboration with Pure MHC, LLC an innovative biotechnology company, to work toward the development of a vaccine for the COVID-19 virus.

At the OU Health Sciences Center, the scientific team is led by William Hildebrand, Ph.D., whose expertise is helping the body's protective immune cells target and kill virus-infected cells. He will be working with Pure MHC, part of a family of biotechnology companies formed, funded and managed by Austin, TX based Emergent Technologies, Inc. Approximately 20 years ago, it commercialized and advanced Hildebrand's and others' research to develop breakthrough drugs and therapies. This partnership represents a unique collaboration between researchers in a university setting and a company with the scientific expertise and investment to further the project.

Hildebrand's research career has focused on a crucial component of vaccine development: creating targets that help the immune system's T-cells find and kill virus-infected cells. Because COVID-19 is an entirely new virus, the body's immune system has not been trained to recognize it. Hildebrand's research discoveries could provide a target for a potential vaccine.

“The body's T-cells are able to distinguish virus-infected cells from healthy cells and, for the most part, they are able to eliminate infected cells without harming healthy cells,” Hildebrand said. “However, with COVID-19, our T-cells have not been prepared to recognize this coronavirus, and the disease is able to get a foothold before our immune system is able to catch up to it. What we want to do is to prepare our cells in advance, just as the body uses the flu vaccine – it gets your immune system ready to target the flu. Our role is to identify the targets that mark COVID-19, and then steer the T-cells to those targets using a vaccine.”

Hildebrand has been working on this type of target discovery technology for nearly three decades. He successfully discovered a target that allows T-cells to protect against the West Nile Virus, as well as a cancer target that allows T-cells to kill the malignant cells in melanoma. Now his charge is to discover the target for COVID-19.

For that work, the OU Health Sciences Center brings an important resource to the collaboration with Pure MHC: a Biosafety Laboratory-3, one of the safest and most specialized laboratories for working with infectious diseases. The laboratory ensures a high level of protection for research personnel because they will be working with the live virus.

“With OU, we are acquiring the actual COVID-19 virus, and we will infect cells and look for the targets on the infected cells,” said Curtis McMurtrey, Ph.D., Director of Immuno-Proteomics for Pure MHC and a graduate of the OU Health Sciences Center. “We will use those targets to either develop a vaccine or to directly target them with something like monoclonal antibodies.”

Because the OU Health Sciences Center and Pure MHC have been working together on similar projects for over 20 years, they are uniquely positioned to quickly develop a target for COVID-19, said Tommy

Harlan, founder, chairman and CEO of Emergent Technologies, Inc., the technology commercialization company that manages Pure MHC. Harlan said he founded his company specifically to find and commercialize early-stage discoveries so they can positively affect human health and disease.

“After 20 years of working with Dr. Hildebrand and the OU Health Sciences Center, and through our commercial entity Pure MHC, we are positioned to pursue this discovery project very quickly at a time when speed is important,” Harlan said. “It all lines up at a time when society needs help with this devastating disease.”

Such partnerships are key to the university moving its discoveries into the marketplace, said James Tomasek, Ph.D., Vice President for Research at the OU Health Sciences Center. In 1998, the state of Oklahoma passed two state questions that allowed academic research to be transformed into start-up biotech companies. Tomasek, along with the university’s Office of Technology Commercialization, assist researchers in preparing their science for outside licensing and investment.

“The partnership between the OU Health Sciences Center and Pure MHC, a company developed from OU Health Sciences Center technology and housed at University Research Park in Oklahoma City, demonstrates how discoveries can be taken from the lab to the marketplace to address critical healthcare needs, like developing a vaccine for COVID-19,” Tomasek said.

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### **OU HEALTH SCIENCES CENTER**

One of nation’s few academic health centers with seven professional colleges — Allied Health, Dentistry, Medicine, Nursing, Pharmacy, Public Health and Graduate Studies — the University of Oklahoma Health Sciences Center serves approximately 4,000 students in more than 70 undergraduate and graduate degree programs on campuses in Oklahoma City and Tulsa. For more information, visit [www.ouhsc.com](http://www.ouhsc.com).

### **OU MEDICINE**

OU Medicine — along with its academic partner, the University of Oklahoma Health Sciences Center — is the state’s only comprehensive academic health system of hospitals, clinics and centers of excellence. With 11,000 employees and more than 1,300 physicians and advanced practice providers, OU Medicine is home to Oklahoma’s largest physician network with a complete range of specialty care. OU Medicine serves Oklahoma and the region with the state’s only freestanding children’s hospital, the only National Cancer Institute-Designated Stephenson Cancer Center and Oklahoma’s flagship hospital, which serves as the state’s only Level 1 trauma center. **OU Medicine is the No. 1 ranked hospital system in Oklahoma, and its oncology program at Stephenson Cancer Center and OU Medical Center ranked in the Top 50 in the nation, in the 2019-2020 rankings released by *U.S. News & World Report*.** OU Medicine was also ranked by *U.S. News & World Report* as high performing in four specialties: Ophthalmology in partnership with Dean McGee Eye Institute, Colon Surgery, COPD and Congestive Heart Failure. OU Medicine’s mission is to lead healthcare in patient care, education and research. To learn more, visit [oumedicine.com](http://oumedicine.com).

### **Pure MHC**

Pure MHC, LLC is a platform technology company funded and managed by Emergent Technologies, Inc. with expertise in disease-specific target identification and validation as well as immunotherapeutic drug development for cancer, infectious and autoimmune diseases and allergy. The Pure MHC target discovery technology was developed by Chief Scientist William Hildebrand, Ph.D., of the University of Oklahoma Health Sciences Center. For more information, visit [www.puremhc.com](http://www.puremhc.com).

### **Emergent Technologies**

Emergent Technologies, Inc. is an innovation solutions and technology commercialization leader headquartered in Austin, Texas. For more information visit [www.etibio.com](http://www.etibio.com).