



PRESS RELEASE

Photos and b-roll can be found [here](#).

Recording of press briefing on April 15 can be found [here](#).

LSU Health Shreveport Launches COVID-19 Antibody Testing Capability

SHREVEPORT, La. (April 15, 2020) – Scientists at LSU Health Shreveport continue to have a significant impact on the fight against COVID-19 in Louisiana with their latest achievement being able to offer serology testing. Serology testing is in high demand to be able to better determine the number of COVID-19 cases that include those of people who have already recovered and were asymptomatic. LSUHS will be using serology testing to support the convalescent plasma therapy clinical trial and help identify ideal plasma donors.

Researchers have established their own Indirect Enzyme-linked immunosorbent assay (ELISA), a lab-based test that can determine the amount of COVID-19 antibodies in a patient sample. Antibodies will be detected against the receptor binding domain of the SARS-CoV-2 spike protein. This domain of the major glycoprotein mediates attachment to the host cell, is most diverse among different coronavirus strains and induces virus-neutralizing antibodies. Florian Krammer, Professor of Microbiology at the Icahn School of Medicine at Mount Sinai in New York, was instrumental in providing the necessary reagents to the lab at LSUHS and allowing researchers to get their own tests up and running quickly. These reagents are necessary to produce the protein used as antigen (receptor binding domain) for the ELISA.

The team is also aiming to validate the ELISA by a neutralization assay, which measures the neutralization of 'pseudotyped' VSV virions. These are viruses that mimic SARS-CoV-2 on the outside by expressing the SARS-CoV-2 Spike receptor protein in the viral envelope but harbor harmless (not disease causing) genetic information that allow easy measurement of infection in the lab.

The LSUHS test is different from those that may become commercially available because it allows for the measuring of antibody titers, which shows the amount of antibodies in a person's blood, and if linked to neutralization assays, could possibly determine whether somebody is immune.

"The serology lab will aid the Convalescent Plasma Therapy that is ongoing at LSU Health Shreveport. By identifying the amount of antibody in donated plasma, we can select of the most effective plasma to be used in patients," said Matthew Woolard, PhD, O'Callaghan Family Endowed Professor in Microbiology and Associate Professor in the Department of Microbiology and Immunology. "In the future, we hope to use this serology assay to better determine who has been infected and understand the scope of the COVID-19 pandemic in Northwest Louisiana."

The Emerging Viral Threat Lab at LSU Health Shreveport is already working with LifeShare Blood Center to identify blood plasma for suitability for Convalescent Plasma Therapy for COVID-19 patients. This

investigative therapy uses convalescent plasma from individuals who have recovered from the virus, which could possibly contain COVID-19 antibodies and might be effective in treating those who are currently fighting the infection.

Serology testing is one of several important components that can help better determine who would be an ideal plasma donor for the potentially life-saving convalescent plasma therapy. Convalescent plasma donors must meet several criteria: they must have tested positive for COVID-19 on the RT-PCR test, they must be symptom free for a minimum of 14 days, and then they must receive a negative RT-PCR test result. After re-testing negative for COVID-19, they can donate plasma for the therapy. The serology lab, which is part of the Emerging Viral Threat Lab, tests the plasma and determines effective antibody titers to see if the plasma has the potential to be effectively neutralizing and improve disease outcome.

At this time, the serology testing is only available to be performed on possible Convalescent Plasma Therapy donor samples.

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ABOUT LSU HEALTH SHREVEPORT

LSU Health Shreveport is one of two Health Sciences Centers of the Louisiana State University System and one of only 154 in the nation. LSU Health Shreveport is home to the School of Medicine, School of Graduate Studies and School of Allied Health Professions, and a robust research enterprise. Almost 900 students are enrolled in the degree programs at any one time. Additionally, over 500 residents and fellows are trained each year. The primary mission of the LSU Health Sciences Center at Shreveport is to teach, heal, and discover, in order to advance the well-being of the region and beyond. At the heart of the LSU Health Shreveport is a strong faculty that includes a number of nationally and internationally acclaimed physicians and scientists. More than 600 strong, they lead our research efforts, educate our students and provide primary and specialty care to patients throughout the region. LSU Health Shreveport has strong community support, fostering a culture of diversity and inclusion that promotes mutual respect for all. For more information, visit www.lsuhs.edu.

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