

University of Miami to Develop COVID-19 Rapid Diagnostic Test in Collaboration with Heat Biologics

Biomedical researchers at the University of Miami Miller School of Medicine are developing a COVID-19 point-of-care diagnostic test in collaboration with biopharmaceutical company Heat Biologics, Inc.

The new, patient-friendly test will require a simple pharyngeal throat swab to deliver on-the-spot results on a paper strip in under 30 minutes. In contrast, current tests for COVID-19 usually rely on the use of expensive thermal-cyclers, with results in five to six hours, or require blood draws to detect antibodies, indicative of previous exposure. Preliminary research suggests the new test is specific to the novel coronavirus, with no cross-reaction to previous coronavirus subtypes. The test is designed to enable cost-effective manufacturing amenable for mass production and deployment around the world.



Sylvia Daunert, Ph.D., Pharm.D.,
M.S.

Sylvia Daunert, Ph.D., PharmD, M.S., chair of the Department of Biochemistry and Molecular Biology, whose lab is leading the research at the University of Miami, said, “Our lab has tremendous experience developing accurate and easily usable tests for infectious diseases such as HPV and Zika. Unlike tests that detect antibodies (IgG and IgM method), which can take weeks to manifest, our test is being developed to utilize molecular recognition and amplification of the target virus. This should allow for much earlier detection—within a couple days of exposure—providing critical and time-sensitive information to help curb the spread of the disease.” UM researchers Sapna Deo, Ph.D., M.S., and Jean-Marc Zingg, Ph.D., are also collaborators on the work.

Dr. Daunert said, “Additionally, our test is designed to provide a read-out in a fraction of the time required for most other tests, has no technical hardware requirements, and offers high sensitivity and a simple binary paper readout that can tell the health care provider if the patient is positive for a disease within 30 minutes. I am very excited to

collaborate with Heat Biologics in order to bring our expertise to bear in fighting this pandemic.”

North Carolina-based Heat Biologics recently launched a program in collaboration with the University of Miami to develop a [vaccine](#) designed to protect against the COVID-19 Coronavirus.

“We are honored to work with Dr. Daunert and the University of Miami to develop this exciting new platform for early and quick diagnosis of COVID-19,” said Jeff Wolf, Chief Executive Officer of Heat Biologics. “Her lab has developed multiple bioassays against similar diseases, and we are eager to utilize these tools in the war against COVID-19. Importantly, we believe this point-of-care diagnostic will address many of the challenges facing existing tests, including time to readout and cost. We look forward to providing further updates on this platform in the near future.”

Dr. Daunert’s COVID-19 research is also supported in part by the University of Miami Clinical and Translational Science Institute through an Emerging Diseases funding award.