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Dr. John T. Macdonald Foundation Supports Development of Newly Patented Point-of-Care Rapid Test for COVID-19

To help identify the spread of COVID-19 in communities worldwide, the Dr. John T. Macdonald Foundation has made a $100,000 donation that continues its support of renowned University of Miami Miller School of Medicine biomedical researchers Sylvia Daunert, Ph.D., Pharm.D., M.S., and her team in their efforts to finalize a point-of-care diagnostic test.

From left, John Edward Smith, managing

director, Dr. John T. Macdonald Foundation, Aldo Busot, John Nordt III, M.D., Foundation board member, Sylvia Daunert, Ph.D., Pharm.D., M.S., Dean Roller, M.D., Foundation board member, and Kevin Luongo, facilities manager, BioNIUM.

The patient-friendly test, which just received notice of patent allowance by the U.S. Patent and Trademark Office and is under review by the Food and Drug Administration, is designed to diagnose the coronavirus in less than 30 minutes, providing critical early detection of the disease.

“The Dr. John T. Macdonald Foundation recognizes the need for the Miami-Dade community, the State of Florida, and the nation to deliver more medical and technological solutions to fight the coronavirus,” said Aldo C. Busot, chair of the Foundation’s Board of Directors. “This gift in support of Dr. Sylvia Daunert and her laboratory will accelerate their important research in developing a crucial diagnostic test for early detection of COVID-19.”

The rapid test uses a simple throat swab to deliver on-the-spot results on a paper strip and is designed to enable cost-effective manufacturing for mass production and use around the world, something Dr. Daunert’s lab has done before.

“Our lab has tremendous experience developing accurate and easily usable tests for infectious diseases such as HPV and Zika,” said Dr. Daunert, who chairs the Miller School’s Department of Biochemistry and Molecular Biology. “Unlike IgG and IgM method tests that detect antibodies, and which can take weeks to manifest, our test is being developed to utilize

molecular recognition and amplification of the target virus."

The Foundation's support of Dr. Daunert's work continues a partnership forged in 2012, when the Dr. John T. Macdonald Foundation Biomedical Nanotechnology Institute at the University of Miami, or BioNIUM, was established through a transformative $7.5 million gift. Led by Dr. Daunert, a pioneer in designing infinitesimal diagnostic tools and biosensors by genetically modifying proteins and cells, researchers at BioNIUM work collaboratively to foster biomedical, environmental and pharmaceutical breakthroughs on a nanoscale.

The team working to develop the rapid test includes two other faculty members, Sapna Deo, Ph.D., M.S., and Jean-Marc Zingg, Ph.D., and a number of senior researchers and students. The innovative research is also supported in part by the University of Miami Clinical and Translational Science Institute through an Emerging Diseases funding award.

Since becoming a grant-making foundation in 1992, the Dr. John T. Macdonald Foundation has awarded more than $47 million to more than 350 organizations throughout the community. A large part of that has been an ongoing partnership with the University of Miami that has resulted in more than $35 million in support of many UM initiatives.

Over the years, the Foundation has funded three signature programs at the Miller School, including BioNIUM; the Dr. John T. Macdonald Foundation Department of Human Genetics, which elevated the Miller School's programs in genetic research to world-class stature; and the Dr. John T. Macdonald Foundation School Health Initiative in the Department of Pediatrics,

which makes it possible for the Miller School to provide comprehensive, primary health care to 15,000 children at nine Miami-Dade public schools.

“The Foundation is unique in its ability to identify leadership roles in our community,” said Henri R. Ford, M.D., M.H.A., the Miller School’s dean and chief academic officer. “We are grateful for their on-going support and partnership, which will help us play a leading role in advancing research that will lead to transformative care in the fight against the COVID-19 pandemic.”

“I urge other donors to match the $100,000 gift to the COVID-19 Rapid Test Research Fund,” added Busot. “We need to fund this effort now; it is so critically important.”