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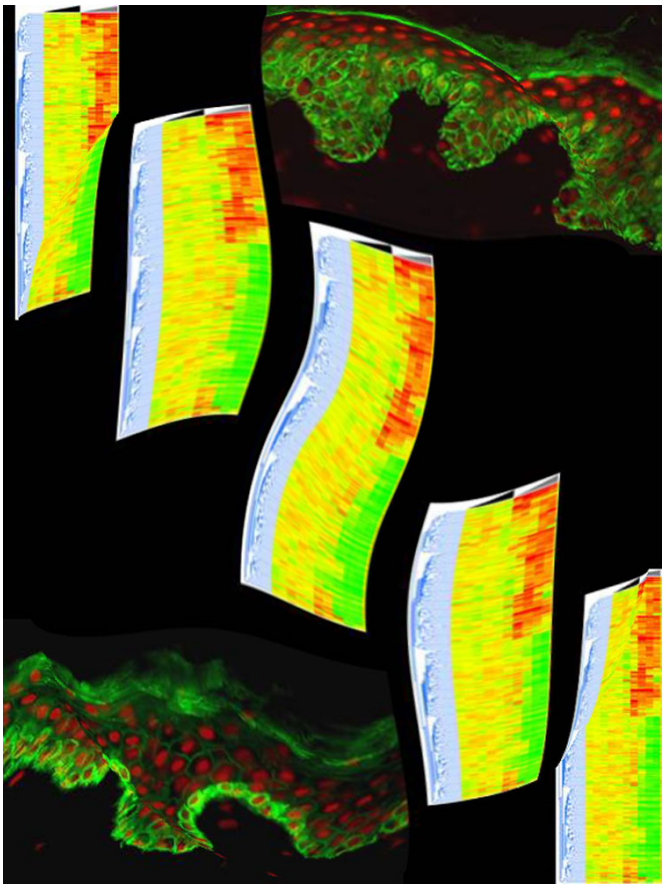
August 20, 2020

Miller School and NIH Researchers Team up to Advance Healing of Diabetic Foot Ulcers

New National Institutes of Health funding that supports two research teams – one inside and one outside of NIH – will help look deeper into why foot ulcers in people with diabetes commonly resist healing. In this case, Dr Maria Morasso's Laboratory of Skin Biology at the National Institute of Arthritis and Musculoskeletal and Skin Diseases and Dr. Marjana Tomic-Canic's laboratory at the University of Miami Miller School of Medicine plan to uncover potential mechanisms underlying these vexing ulcers.



The study will benefit from tissue banking.

This partnership is focused on developing clinically relevant research projects with high potential of translation to clinical applications.

Collaboration is key

Collaboration is an essential part of the project. In addition to the partnership of the two laboratories, the UM researchers plan to use a unique NIH resource that the UM Wound Healing Clinical and Translational Research Team helped build.

“As one of the Clinical Research Units of the recently

established NIDDK-funded Diabetic Foot Consortium, we will enroll patients for the consortium clinical trials, and this study is going to be an ancillary study that will benefit from the consortium tissue banking," said Dr. Tomic-Canic, who is also director of the Wound Healing and Regenerative Medicine Research Program at the Miller School.

"This is one of the great examples of 'science without borders,' in which multiple different Institutes of the NIH and multiple different NIH-funded projects all come together under one mission – to help patients heal," said principal investigator Dr. Tomic-Canic, professor and vice chair of research and the William E. Eaglstein, M.D. Chair in Wound Healing in the Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery at the Miller School.

The collaboration is "awe-inspiring," Dr. Tomic-Canic said.

Funding supports translational research

The two-year project begins with a grant from the "Bench-to-Bedside and Back Program (BtB)" to foster basic science research into comparative genomics and human and mouse models, with a strong eye toward translation to the clinical setting.

Dr. Tomic-Canic, Robert S. Kirsner, M.D., Ph.D., and their translational and clinical research teams plan to take tissue samples from patients to the laboratory and use them to learn more about the molecular underpinnings of the non-healing ulcers. There is also potential to identify new pathways to therapies, which can then be brought back to patients.

The initiative will build on prior work from Dr. Tomic-Canic and colleagues that looked at molecular and genetic mechanisms

in diabetic foot ulcers and that already points to therapeutic approaches, including topical statins.