



Azitra Awarded NIH SBIR Grant to Develop Microbiome-based Therapeutic for Netherton Syndrome

--The Jackson Laboratory to collaborate with Azitra --

FARMINGTON, CT, August 1, 2018 – [Azitra, Inc.](#), today announced that the company has been awarded a \$225,000 Small Business Innovation Research (SBIR) Phase I award (R43AR073562) from the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) of the National Institutes of Health (NIH). The grant will support development of Azitra’s skin microbiome therapeutic, AZT-02, a Live Biotherapeutic Product (LBP) for treatment of Netherton Syndrome (NS), a severely disabling orphan skin disease. Azitra’s Chief Scientific Officer, Travis Whitfill and [The Jackson Laboratory’s \(JAX\)](#) skin microbiome expert, [Julia Oh](#), are the principal investigators on this grant.

“I’m thrilled to receive this funding and am honored to be joined by Dr. Julia Oh at JAX for this research,” said Travis Whitfill, MPH, Founder and Chief Scientific Officer, Azitra. “Although NS is extremely rare, it is a severe, unmet need and patients are desperate for new treatment options. We hope to bring forward a novel, microbe-based therapy, AZT-02, to deliver missing proteins as a viable therapeutic strategy. This project demonstrates the versatility and importance of our microbe-based platform to deliver proteins to the skin.”

AZT-02 is a proprietary strain of *Staphylococcus epidermidis*, a bacterium naturally found in the skin microbiome, engineered to express therapeutic levels of LEKTI protein. LEKTI is a protease inhibitor essential to maintaining skin structure, which is missing in patients suffering from NS.

Under the grant, Azitra will collaborate with JAX to demonstrate that *S. epidermidis* can secrete functional LEKTI protein and that these bacteria can improve phenotypic severity of the disease in a preclinical model.

“There is increasing evidence that the microbiome plays a vital role in many diseases, and the potential of rationally designing microbes to express proteins that can treat a skin disorder such as NS is very exciting,” said Julia Oh, Ph.D., JAX assistant professor. “I am looking forward to collaborating with Azitra as we seek to gain proof-of-concept that the topical application of an engineered *S. epidermidis* that secretes LEKTI can resolve NS symptoms in a preclinical model.”

NS is a genetic disorder caused by mutations in the *SPINK5* gene, which provides instructions for making a protein called LEKTI. The disorder affects the skin, hair, and immune system. Approximately [1 in 200,000](#) newborns are born with the disease, and symptoms including red,



scaly skin, typically become apparent in early childhood. Complications are frequent and newborns with the disorder are at risk of becoming dehydrated and developing infections in the skin or throughout the body (sepsis), which can be life threatening. There are currently few treatment options for NS.

“There is a tremendous unmet medical need for a safe, efficacious approach to treating many skin disorders, including NS, which is a debilitating illness,” said Leonard M. Milstone, M.D., Senior Research Scientist in Dermatology at Yale University. “Current treatment options for many skin diseases fail to address the underlying causative pathophysiologies, and AZT-02 provides a refreshing new approach to addressing such problems and improving care for NS patients.”

About Azitra

Azitra, Inc. is a preclinical stage biotechnology company combining the power of the microbiome with cutting-edge genetic engineering to treat skin disease. The Company was founded in 2014 by scientists from Yale University and works with world-leading scientists in dermatology, microbiology, and genetic engineering to advance its consumer health and pharmaceutical programs to treat atopic dermatitis, dry skin and targeted orphan indications. For more information visit www.azitrainc.com.

About The Jackson Laboratory

[The Jackson Laboratory](http://www.jax.org) is an independent, nonprofit biomedical research institution based in Bar Harbor, Maine, with a National Cancer Institute-designated Cancer Center, a facility in Sacramento, California, and a genomic medicine institute in Farmington, Connecticut. It employs 2,100 staff, and its mission is to discover precise genomic solutions for disease and empower the global biomedical community in the shared quest to improve human health. To learn more, please visit www.jax.org.

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