

## Nutriwyo, LLC

**One-Sentence Summary of What You Do:** Nutriwyo is developing a novel treatment strategy for diabetic wounds.

Affiliated Institution: University of Wyoming

Have you formed a company yet? Yes

Funding/Financing: Grant Funding

Please describe your company and the problem you are trying to solve: A major complication of diabetes is the development of diabetic foot wounds, which is the leading cause of amputation in the United States. Non-healing diabetic wounds affect 5.7 million people in the United States (~2% of the population) and an economic burden of ~US \$20 billion annually. Currently, the only FDA approved drug to treat diabetic wounds is the growth-factor preparation Becaplermin, which requires daily applications for weeks to months and, has been reported to have several adverse effects. Therefore, a major need exists for developing novel therapeutic strategies for treating diabetic wounds, which is the focus of Nutriwyo LLC. Proteases are enzymes, naturally produced by the body that breaks down proteins and growth factors. Studies have shown that non-healing wounds have higher levels of proteases. Our goal is to develop a new approach to treat diabetic wounds by using a potent and selective protease inhibitor. To this end, we are repurposing a molecule that has previously undergone clinical trials for another unrelated therapeutic application. Our preliminary studies in a clinically relevant porcine model of diabetes suggest that inhibition of the protease enzyme accelerates wound healing. The University of Wyoming has one US patent granted and another filed that focuses on this invention. Additionally, Nutriwyo LLC has recently received NIH Phase I STTR funding to further evaluate the efficacy and safety of our approach.

What is/was your go-to-market strategy? The molecule we are testing for its utility in diabetic wound healing was originally developed for treating other human conditions. We plan on using this drug locally at the site of the wound, which would reduce any potential toxicity to the rest of the body. Furthermore, this molecule has a non-provisional patent pending for its utility in treating diabetic wounds by Dr. Sreejayan Nair (Professor, University of Wyoming) who is the research consultant for Nutriwyo LLC. Once our final efficacy testing is done, we intend to collaborate with research institutions or hospitals for clinical testing of the compound and delivery methods for the treatment of diabetic wounds. Various business models subsequent to successful human trials are in development, but multiple options exist.



**How will/do you generate revenue?** Nutriwyo recently received a Phase I NIH STTR funding to extensively evaluate the efficacy of the compound for diabetic wound healing. This grant was based on supportive preliminary data in diabetic pigs. We intend to finish the efficacy testing by the mid of 2021. We are also applying for Wyoming state matching funds from the Wyoming Business Council. Long term, multiple options exist for company revenue generation including direct licensing, strategic supply partnerships, toll manufacturing, and direct supply, etc. More defined models for company revenue generation will be developed in due course.

**How will this showcase benefit your company or technology?** Nutriwyo will require about \$100,000 to test the efficacy of the molecule in an FDA-approved preclinical testing facility and do extensive toxicology and molecular studies before we subject our molecule to Phase II clinical studies in human subjects with a diabetic wound. This showcase will allow us to present our latest data around the acceleration of diabetic wound healing and highlight our current studies and future plan. Longer-term, a Phase II clinical trial partner needs to be identified, and this showcase might be the catalyst for an interested partner to self-identify.

## Who are the members of your team and why is this the right team to get the job done?

- Rama P. Nair– CEO. Dr. Nair has a PharmD (University of Florida) and is a board-certified geriatric pharmacist. She is the founder CEO of Nutriwyo LLC since it was established in 2014. She was involved in three pilot clinical studies to test the efficacy of nutraceuticals. Sreejayan Nair– Research consultant. Dr. Nair is also a professor of pharmacology at the University of Wyoming. He is the inventor of patents filed by the University on the protease inhibitor to treat diabetic wounds based on his research.
- Dr. Brenda Alexander– Collaborator. Professor of Animal Sciences is a collaborator on this project. Dr. Alexander has extensive experience with large animal studies including animal models for diabetic wound healing and neuropathic pain.
- Dr. Kenneth Liechty– Consultant. Dr. Liechty serves as the Surgeon in Chief and Chair of the Department of Surgery at Nemours Children's Hospital, as well as the Director of Fetal Medicine at the University of Colorado. He is also a member of the board of the Wound Healing Society. He is a leading expert in diabetic wound healing and has a number of NIH grants and patents related to diabetic wound healing.
- Dr. Carlos Zgheib– Collaborator, Dr. Zheib is an Assistant Professor at the University of Colorado. His expertise is in developing novel molecules for diabetic wound healing. He was the Wound Healing Society's Shark Tank finalist and the recipient of The American College of Surgeon's Owen H. Wangensteen Excellence in Research Award for Wound Healing) in 2019.