

UNR School of Medicine Researcher Awarded \$2M for New Diabetes Treatment

Over 7.4 million people have been affected by diabetes in the United States according to the Census Bureau, many of which are baby boomers born between 1946 and 1964. An estimated 5 million more people have diabetes but do not know it.

Recently, the University of Nevada Reno, School of Medicine, Associate Professor Dr. Seungil Ro, Ph.D., was awarded a sizeable grant following an important discovery—finding a molecule that can be used to inhibit and treat Type 2 diabetes. The research helped obtain \$2 million in funding for project development over the course of the next three years.

Dr. Ro discovered that Type 2 diabetes can be caused by gastroparesis, a condition where stomach muscles stop working properly and therefore have difficulty moving food from the stomach to the small intestine.

"This new finding is contrary to the current paradigm that suggests that diabetes causes gastroparesis," said Ro. "However, our findings are supported by the results of gastrectomy surgery (removal of a part, or all of the stomach), which have been shown to significantly alleviate the symptoms that arise in Type 2 diabetes patients."

The most common form of diabetes is Type 2, which is a lifelong disease that causes blood glucose (sugar) levels to rise coupled with the inability to produce the insulin needed to regulate normal blood sugar levels. Diabetes, which is among the five leading causes of death in the U.S., develops when the pancreas fails to produce sufficient insulin. Without insulin, sugar builds in the blood and can eventually cause such complications as heart disease, strokes,



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kidney failure, blindness and hypertension. The direct cause of the disease remains unknown, making it challenging to discover effective treatments.

Ro is researching what causes obesity and Type 2 diabetes in the hopes of uncovering any underlying causes. His research focuses on smooth muscle biology and gastrointestinal motility disorders.

"This funding will allow us to begin testing FDA-approved drug candidates that will restore the function of gastrointestinal regulatory cells," said Ro. "The YUYANG Dnu Co., Ltd. funding contract will serve as a springboard to transfer these discoveries into efficacious drug treatments that are commercially available."

YUYANG will have the rights to negotiate an exclusive license with the

University of Nevada, Reno for the intellectual property that results from this research. With that, the company will work toward the development of new treatments with UNR School of Medicine.

"The outstanding work of our faculty, from basic research to translational research, is attracting attention," said Mridul Gautam, Ph.D. UNR vice president for Research and Innovation. "With the support and investment of YUYANG Dnu, a global company, we will continue to enhance the competitiveness of our faculty, helping them grow their research and make a difference in the lives of many."

"This dedicated research funding is evidence that UNR is at the forefront of innovative solutions to improve global health," said UNR School of Medicine Dean, Thomas L. Schwenk, M.D.