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New research explores role of senescent cells in aging and obesity-related conditions

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Research scientists and physicians at UConn Health, in collaboration with researchers at the Mayo Clinic, have just had an article documenting new work published in *Nature Aging*, a prestigious journal

dedicated to aging research and study.

The article, "An Inducible p21-Cre Mouse Model to Monitor and Manipulate p21-Highly-Expressing Senescent Cells In Vivo," appears in the new issue of *Nature Aging*. Ming Xu, PhD, assistant professor in the UConn Center on Aging and the department of Genetics and Genome Sciences at the University of Connecticut Health Center, is the senior and communicating author. Nathan Gasek, a researcher enrolled in UConn Health's MD PhD training program, is one of the first authors, along with UConn Health researchers Dr. Binsheng Wang and Dr. Lichao Wang.

The *Nature Aging* journal includes studies on the biology of aging and longevity examining aging at a biological level and exploring efforts at harnessing those biological processes to prolong life span and health span. The journal also features translational and clinical research focused on diseases that primarily affect older individuals.

"We developed a new mouse model to examine senescent cells, a cell population which plays an important role in various aging- and obesity -related chronic conditions," explains Xu. "Unlike previous models, our new model is focusing on senescent cells expressing high levels of p21, a cyclin-dependent kinase inhibitor, and one of the key markers for cellular senescence. This new model allows us to monitor, sort, image, eliminate or modulate senescent cells in vivo, and could initiate a new avenue of research to further understand the biology of senescent cells."

"This article represents a significant contribution from several UConn researchers, in concert with colleagues at Mayo Clinic, to advance the field of geroscience and in this way help to ultimately improve health in older adults through research," says George Kuchel, MD, director, UConn Center on Aging (and professor, Travelers Chair in Geriatrics and Gerontology). "We are proud of their achievements, and know their

work will continue producing invaluable aging breakthroughs going forward."

More information: Binsheng Wang et al, An inducible p21-Cre mouse model to monitor and manipulate p21-highly-expressing senescent cells in vivo, *Nature Aging* (2021). DOI: 10.1038/s43587-021-00107-6

Provided by University of Connecticut

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