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UA researchers receive $37.5 million grant to test new therapy for Alzheimer's

By Jasmine Demers Arizona Daily Star 12 hrs ago

Roberta Diaz Brinton

Courtesy of the University of Arizona

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The University of Arizona Center for Innovation in Brain Science has received a $37.5 million federal grant to research a potential regenerative therapy for Alzheimer’s disease, which researchers hope will help reverse the course of the neurodegenerative disease.

The five-year grant from the National Institute on Aging will provide funding for a nationwide Phase 2 clinical trial that will study the effectiveness of a medication called allopregnanolone, or allo, as a

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treatment for people with early-stage Alzheimer's who carry the genetic risk factor for the disease.

"Based on our discovery and early clinical research findings, we are optimistic that allo could be an effective treatment for Alzheimer's," said Roberta Diaz Brinton, director of the center and clinical trial lead. "Our precision medicine approach for Alzheimer's is designed to treat the right person at the right time."

"We are thrilled to advance allo as the first regenerative therapeutic for Alzheimer's and to bring innovations in the brain science of the future to those who need a cure today," she continued.

While the exact cause of Alzheimer's disease is unknown, researchers do know that the disease leads to the death of brain cells and causes the connection between the cells to decrease.

This is believed to be caused by the buildup of proteins within the brain, particularly the beta-amyloid protein.

During a Phase 1 clinical trial, Brinton and her team found that allo, which is natural steroid that is already

produced within the brain, has been shown to increase the generation of new brain cells, reduce the formation of beta-amyloids and improve cognitive function.

Alzheimer's patients have lower levels of allo in their brains compared to people with healthy brains.

"What allo does is it promotes the energy system in the brain, and because of that, it reduces the generation of beta-amyloids and reverses that aspect of the disease," Brinton said. "At the same time, it's promoting the generation of new nerve cells."

According to Brinton, allo has also been shown to reduce inflammation within the brain, which is known as a defining indicator of Alzheimer's disease.

"Dr. Brinton's research has the potential to bring relief to the millions of people who are living with Alzheimer's, and to the countless more family members who are experiencing these effects in a loved one," said Elizabeth Cantwell, UA senior vice president for research and innovation. "Research that comes out of the labs and truly makes a difference in the everyday lives of people is one of the core principles of research at the University of Arizona."

In the next phase, researchers will test the medication in early-stage patients, rather than late stage, and will determine whether allo will be effective as a therapy.

"In Phase 1 of the clinical trial, we determined that allo is safe in our target population, we determined that our treatment regimen is effective and also determined the right dose moving forward into Phase

2."

Brinton also said this research may be effective in other age-associated neurodegenerative disease as well, which is an area they plan to investigate.

"We already have laboratory evidence that allo may be effective for Parkinson's as well," she said. "We are working now to develop a clinical trial of allo in persons with Parkinson's."

More than 5 million Americans, and 50 million people worldwide, are living with Alzheimer's, according to the Alzheimer's Association.

By 2050, that number is expected to increase to 14 million Americans.

In Arizona, more than 200,000 people age 65 and older will live with the disease by 2025.

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Jasmine joined the Star in 2019. With a master's degree in journalism, Jasmine served in a variety of leadership roles, including The Daily Wildcat's editor-in-chief. She was also named Outstanding Newsperson of the Year by the UA School of Journalism.