

September 6, 2024

TARCC Grant Awards Texas Tech Researcher to Study VDAC1 and Mitophagy in Alzheimer's Disease

Lubbock, TX –Murali Vijayan, Ph.D., assistant professor at Texas Tech University Health Sciences Center, has been awarded a research grant from the Texas Alzheimer's Research and Care Consortium (TARCC) to investigate the role of Voltage-Dependent Anion Channel 1 (VDAC1) in Alzheimer's Disease (AD). The grant will support Vijayan's research into how VDAC1 regulates mitophagy, a cellular process critical for maintaining healthy mitochondria.

Mitochondrial dysfunction plays a significant role in the development of Alzheimer's Disease. By studying VDAC1, Vijayan aims to uncover novel mechanisms that contribute to this dysfunction, potentially leading to new therapeutic targets. The research will involve both in vitro and in vivo models to examine how disruptions in VDAC1 function may impair mitochondrial clearance and exacerbate neurodegeneration.

"I am honored to receive this grant from TARCC," said Dr. Vijayan. "This research has the potential to significantly advance our understanding of Alzheimer's Disease and identify new avenues for therapeutic intervention."

The grant will provide funding for Dr. Vijayan's research, allowing him to explore the molecular underpinnings of mitochondrial dysfunction in Alzheimer's and develop innovative strategies to protect neurons and slow disease progression.

Texas Tech University Health Sciences Center is committed to advancing research on neurodegenerative diseases and is excited about the potential impact of Dr. Vijayan's work.

August 14th, 2024

Research Articles from TTUHSC Internal Medicine Emphasize Healthy Lifestyle in Fight Against Dementia

Three articles exploring new research findings in the field of dementia have recently been published or in press by researchers in the Reddy Lab, housed in Internal Medicine at Texas Tech University Health Sciences Center.

Published in the Journal of Ageing Research Review, Ujala Sehar, Ph.D. and Postdoctoral Research Associate, wrote on research findings that revealed a clear connection between sleep quality, eating a healthy diet with plenty of fruits and vegetables, and engaging in regular exercise with maintaining brain size overall and particular the hippocampus, a portion of the brain critical to maintaining memory.

"Our doctor's recommendations for getting plenty of sleep, eating well and exercising regularly is not just to keep our bodies strong. It's also critical for our brains to age healthfully," Sehar said.

Another article authored by Upasana Mukherjee, Ph.D., also a Postdoctoral Research Associate in Internal medicine, dove even more deeply into the importance of sleep for helping us combat both memory loss and emotional problems such as depression and anxiety. Sleep is critical for all systems of our body to reset and work at their peak efficiency, and this reset is even more important as we age.

“Unfortunately, sleep issues often become more prevalent as we age. Thus, it becomes even more important that we promote the importance of sleep and provide guidelines on how to improve sleep quality, particularly to older adults. Good sleep can make a huge difference in both mood and memory,” Mukherjee said.

The importance of exercise was examined in a third paper from the Reddy Lab. Maamoon Mian, a medical student at TTUHSC, researched how regular exercise helps to create new brain cells, minimizes brain shrinkage often associated with Alzheimer’s disease and other related dementias, and improves the quality of life in those studied.

“These seem like common sense suggestions, and yet many of our aging research participants either ignore the recommendations or downplay their importance. It’s important for all of us to increase our healthy habits now so that we can age better in the future,” Mian said.

For more information on the work of the Reddy Lab and Internal Medicine at TTUHSC, or to volunteer to participate in one of our ongoing research studies, please contact Reddy Lab at reddylab@ttuhsc.edu.