Verdin Lab

CD38-Mediated NAD+ Consumption Affects Brain Aging

The co-enzyme nicotinamide adenine dinucleotide (NAD) is involved in a number of metabolic processes. NAD depletion in brain tissue has been associated with the processes of brain aging and the onset of neurodegenerative diseases, such as Alzheimer's. However, the precise mechanisms responsible for the age-related decline in brain NAD levels remain elusive. NAD levels can be affected by a number of different factors, such as NAD-consuming enzymes. In this study, we will explore a possible role of one such enzyme called CD38 in the brain aging process.

This project integrates wet-bench and dry-bench techniques. We are employing various omics approaches, including single-nuclei sequencing, spatial transcriptomics, metabomics, and proteomics, in conjunction with wet-bench techniques, such as immunohistochemistry (IHC), Western blot (WB), and qPCR, as well as multiple behavior tests. Therefore, this project is multidimensional, and trainees involved will receive comprehensive training during their time in the lab.

To learn more about the Verdin Lab, click HERE
To apply to the Verdin Lab, return to the Internships Homepage