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CEREBRAL ORGANOID AS A TOOL TO STUDY NEURODEGENERATIVE DISEASES IN
MICROGRAVITY**Abstract**

A brain organoid is a self-organizing three-dimensional tissue that can mimic the architecture and functionality of the human brain and is made from human embryonic stem cells or pluripotent stem cells. Because of the combined effects of microgravity and cosmic radiation, spaceflight has a huge impact on astronauts' health. Changes in differentiation and growth are known consequences of microgravity (g) on cells. The Effect of Microgravity on Human Brain Organoids investigates how microgravity affects the survival, migration, and metabolism of brain cells, as well as the creation of neural networks. This paper focuses on using the benefits of microgravity environment to understand the development neuronal culture for better understanding of neurodegenerative diseases using organoids. We will be doing this with the use of Propagation and spread of pathogenic protein aggregates. Protein misfolding, aggregation, and cell-to-cell transmission of these protein aggregates are thought to play a role in many NDs' pathogenesis. Finally, we suggest a few potential future paths for using cutting-edge technology in 3D culture systems to better understand ND processes and speed drug discovery. This study will help us better understand the challenges we are facing with neurodegenerative diseases