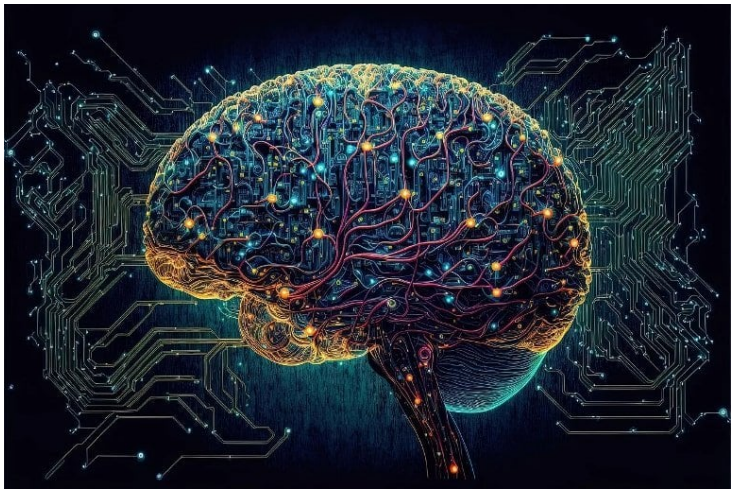
BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Singapore unveils ways for novel therapeutic interventions in Alzheimer's disease

06 May 2024 | News

Little-known protein choline transporter in brain may be key therapeutic target for ageing and Alzheimer's disease



In a groundbreaking study published in Cell Research, researchers from the Yong Loo Lin School of Medicine at the National University of Singapore (NUS Medicine) have unveiled unexpected findings that could pave the way for novel therapeutic interventions in Alzheimer's disease and other neurological disorders.

While tracking the changes of metabolite quantity levels, researchers from the Immunology Translational Research Programme at NUS Medicine, led by Associate Professor Nguyen Nam Long, focused on unravelling the normal biological role of the protein Mfsd7c, mutations of which are linked to Fowler syndrome, a debilitating neurological disorder. Through meticulous experimentation utilising pre-clinical models and comprehensive metabolomics analyses, the researchers discovered novel functions of the orphan transporter called Mfsd7c as a facilitative transporter of choline at the blood-brain barrier (BBB).

Contrary to conventional wisdom that the brain imports free choline from the bloodstream, the study revealed that Mfsd7c is essential for exporting excessive choline out of the brain. This unexpected finding challenges the previously established theories of choline metabolism in the brain and opens new avenues for understanding neurological diseases.

The research team is now focused on leveraging their discovery to develop drugs targeting Mfsd7c in the brain, with the ultimate goal of translating their findings into tangible therapeutic interventions for neurological disorders.