

9. DISEASE MODELS/DRUG DELIVERY

PROJECT:

Development of a human MND Neurovascular Unit model to improve therapeutic translation in drug testing.

While the blood-brain barrier provides a protective lining between the blood and brain, it also prevents the entry of many drugs into the brain. Because of this, the blood-brain barrier is one of the greatest impediments to drug development for MND. It is also a major reason why many MND clinical trials have been unsuccessful. In this project, investigators seek to develop and test an advanced model of the human blood-brain barrier by recreating its complex structure and mix of cell types. The new model will be used as a tool to accurately screen if promising new drugs with the potential to treat MND are able to pass through the blood-brain barrier and reach intended targets in the brain.

KEY HIGHLIGHTS:

This project aims to develop an advanced model of the human blood-brain barrier. The new model will improve clinical translation by accurately screening if drugs with therapeutic potential for MND are able to access and act on intended targets in the brain.

AMOUNT INVESTED BY FIGHTMND IN THIS PROJECT:

\$249,785

Q&A:

Why is this important and how will it benefit patients?

The cell model we are building will be a major advance in providing a suitable tool for identification of new therapeutic approaches for MND, including drug repositioning, with greatly improved potential for clinical translation compared to current blood-brain barrier model systems.

“We hope to show that our novel cell model can show which drugs are most likely to enter the brain and spinal cord of people with MND and reach their target cells.” – Associate Professor Anthony White

PROJECT LEAD:

Associate Professor Anthony White
QIMR Berghofer Medical Research Institute, QLD



Above: Associate Professor Anthony White | Below: PhD student Joanna Wasielewska and Associate Professor Tony White