10. DISEASE HETEROGENEITY/ DISEASE BIOMARKERS

PROJECT:
Profiling monocytes in MND to assess disease progression and heterogeneity

PROJECT LEAD:
Professor Trent Woodruff
The University of Queensland, QLD

MND affects people differently. The age of onset, rate of progression and location where MND begins can vary, making the disease difficult to diagnose and treat. People living with MND also have high numbers of immune cells in their blood and their body's defence mechanism (called inflammation) is highly active. The research team will build a profile of the molecular properties of immune cells in the blood of MND patients. They will link individual immune molecules identified to distinct clinical features of MND, with the aim of developing a novel blood test capable of detecting the type of MND a person has, and identifying the optimal treatment for each individual.

KEY HIGHLIGHTS:
This project aims to develop a blood test that can detect inflammatory molecules in individuals with MND, identify the type of MND they have, and predict the optimal treatment for them.

AMOUNT INVESTED BY FIGHTMND IN THIS RESEARCH PROJECT:
$249,864

Q&A:
Why is this important and how will it benefit patients?
If our research is successful, we will identify a method that could be utilised in future clinical trials in patients with MND. This will be particularly useful for drugs that target the immune system or neuroinflammation, which is an emerging area of focus for the pharmaceutical industry.

Left: Professor Trent Woodruff | Right: Professor Trent Woodruff and Dr Jenny Fung preparing to analyse blood samples obtained from MND patients

"What excites us about this project is the potential to identify an inflammatory biomarker 'signature' from blood samples obtained from patients with MND."
– Professor Trent Woodruff