HERSTON HEALTH PRECINCT SYMPOSIUM 2021

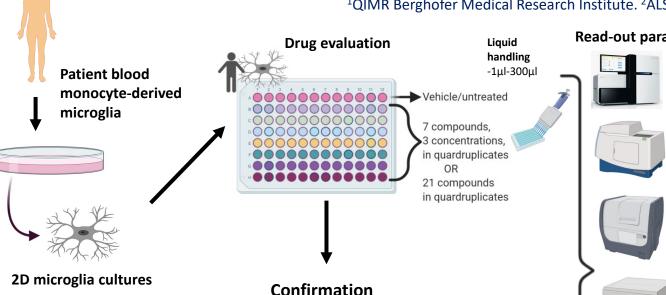
DISC-0014

6 - 10 September 2021 **Education Centre RBWH**

Advanced patient-derived microglia assay for pre-clinical, and clinical trial, drug evaluation

Hazel Quek¹, Carla Cuni-Lopez¹, Michelle Lupton¹, Zac Gerring¹, Vincenzo La Bella², Eske Derks¹, Anthony R. White¹. ¹QIMR Berghofer Medical Research Institute. ²ALS Clinic, University of Palermo, Italy.

PILRB: Paired immunoglobulin-like type 2 receptor beta



Read-out parameters/Instruments



Sequencing RNA-seq



Imaging (fixed cells)

- Cell morphology
- Cell survival-live/dead



Imaging (Live cells)

- Phagocytosis
- Migration

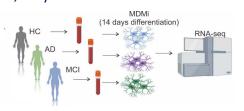
Plate reader (luminescence)

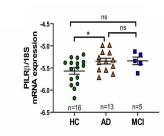
- · Toxicity test -MTT/LDH
- Oxidative test Griss assav

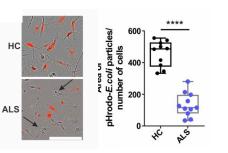


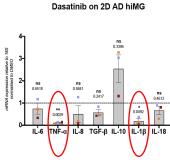
aRT-PCR

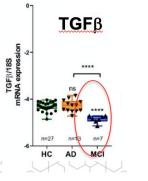
- Cvtokines
- Oxidative stress response

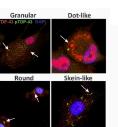


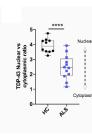


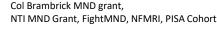












during clinical trials.

Acknowledgments:

NHMRC, MNDRA, MND and Me,



Conclusions: Our model provides a unique opportunity

to test potential microglia-targeted therapeutic drugs for efficacy on any group of patients for which blood samples can be obtained. This can be applied to preclinical drug development, patient selection, and

ongoing real-time monitoring of drug-target interaction



3D microglia













