



Victorian Lions Rheumatism & Arthritis Medical Research Foundation

Report on research activities facilitated by Lions Club donations

Donations from the Lions Club funded the purchase of a **Tecan Infinite M1000 PRO** multifunction plate reader. This high-end piece of equipment allows us to analyse colour reactions, fluorescence and luminescence, which are common end-points for a wide range of assays conducted in the lab. In the past, these different end points were measured on different pieces of equipment, often in different physical locations. Moreover, it is quicker and more accurate and reliable than most other machines we have used in the past. Thus, the impact of this new machine on efficiency and quality cannot be overstated.

The assays we can run on the Infinite M1000 include measurement of cell function and secreted molecules in patient samples, which allow us to better understand the function and responses of immune cells during inflammation. Inflammation underlies almost all disease and is particularly pertinent to rheumatological diseases like rheumatoid arthritis and lupus. The more we understand about how inflammation is regulated, the closer we will get to the discovery of new therapeutics and diagnostic tests.

The Infinite M1000 is used practically every day by researchers in the lab and has made a huge difference to our capabilities and efficiency. As a lab, we use a lot of very expensive high-end techniques to analyse samples, including microscopy, genomics, proteomics and flow cytometry. However, the Infinite M1000 is currently used more frequently than any other piece of equipment for sample analysis. Everyone in the lab uses it and in the past year it has contributed directly to work we have published on basic science, lupus and psoriasis (Jones et al., 2015; Jones et al., 2016; Lee et al., 2016) and has helped us generate data for successful new grant applications. In the coming year, it will contribute to current projects on rheumatoid arthritis, lupus, scleroderma and more basic science. In addition, other groups working on a wide range of inflammatory and autoimmune diseases also have access to it. Thus, as well as having a very significant impact on the work of our lab, the equipment is becoming a vital component of the wider research activities at the MHTP, greatly increasing its impact.

Professor Eric F Morand Director, Rheumatology, Monash Health

Head, School of Clinical Sciences at Monash Health
Monash University Faculty of Medicine, Nursing & Health Sciences

References

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