

Ruairi Wilson – Project Grant Report, Summer 2015

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Throughout my first three years at medical school at the University of Glasgow, I have developed strong interests in clinical dermatology and the immune system. In the past academic year, I undertook an optional intercalated degree (BSc MedSci) at the University of Glasgow, with a specialist course in Immunology. I am fascinated by the ubiquitous nature of the immune system, with its involvement in every tissue of the body and its integral role in human health and disease. Owing to my interest in clinical dermatology, I am particularly interested in the immune system's role in healthy skin homeostasis and how this tightly controlled system becomes dysregulated, leading to common skin pathologies. In recent years, the release of promising immune-based therapies for devastating skin diseases, such as melanoma, has made clear the indispensable role of the immune system in protection against and clearance of skin pathology.

During my intercalated degree, I had the opportunity to explore the involvement of the immune system in maintaining skin homeostasis at rest and under viral infection. I investigated the role of an atypical chemokine receptor, ACKR4, which promotes cutaneous dendritic cell departure from the skin and facilitates their arrival to the skin-draining lymph node. During my time in the lab, I developed a technique to separate the epidermis from the dermis of mouse skin and this has enabled me to analyze ACKR4 expression within these different tissues of the skin.

In receiving a Project Grant from the British Association of Dermatologists, I have been able to return to the lab this summer for a six-week project. I have used this time to investigate the expression of ACKR4 in the epidermis and dermis during skin inflammation. By building on existing data and using techniques that I had previously developed, I was able to begin my summer project efficiently and with focused research questions. During my time in the lab this summer, I have generated a large amount of data and made a significant contribution to a scientific paper, which has recently been submitted to *The Journal of Immunology* for review. I am due to present my research at the prestigious European Congress of Immunology, which takes place this September in Vienna.

I would like to thank the British Association of Dermatologists for their very kind and generous endorsement of my work at this early stage of my career. My experiences this summer have been extremely valuable and have vested in me a committed interest in academic medicine. I am now determined to pursue scientific research alongside clinical work and I anticipate that the near future will be a very exciting time for research in dermatology.

Finally, I would encourage all students interested in dermatology, who are considering a dermatology-themed placement, to apply to the association for a project grant and to benefit, as I have, from their generous support.