

Haematology Honours Projects 2008

PROJECT 1:

Title: Mesenchymal stromal cell-induced gene profile changes in B-lymphocyte populations: an investigation into mechanisms of immune modulation

Supervisors: Dr Anna Cook, Dr Marian Sturm (RPH), Dr Richard Herrmann (RPH)

Location: Curtin University/Royal Perth Hospital

Description: The discovery of mesenchymal stromal cells (MSC), bone marrow-derived adult stem cells, and their use as therapeutic agents, represents a major advance in the treatment of a number of important human disorders. Studies have shown that MSC affect T-lymphocyte function, however, a paucity of data exists regarding the effect of MSC on B-lymphocytes. This work aims to investigate the effect of MSC on B-lymphocyte gene expression. It will make use of established new technologies, including gene array analysis, which permits expression analysis of thousands of genes expeditiously. It is expected that this project will help determine the role of MSCs in modulating the antibody/B-lymphocyte arm of the immune response.

PROJECT 2:

Title:

Immune Dysregulation in Myelodysplasia

Supervisors:

Dr Benedict Carnley, Dr Marian Sturm, Ms Kathryn Shaw, Dr Anna Cook, Dr Richard Herrmann

Location: Royal Perth Hospital

Description: This project is related to understanding the mechanism underlying the blood disorder, myelodysplastic syndrome, which is often the forerunner of leukaemia. It aims to determine if the bone marrow stromal cells in patients with this disorder have aberrant characteristics and interact inappropriately with blood lymphocytes, thereby altering the immune balance. Clinically, this may eventually translate to alternative therapies for this syndrome.