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OTHER PROGRAM AFFILIATIONS



Development and Stem Cells

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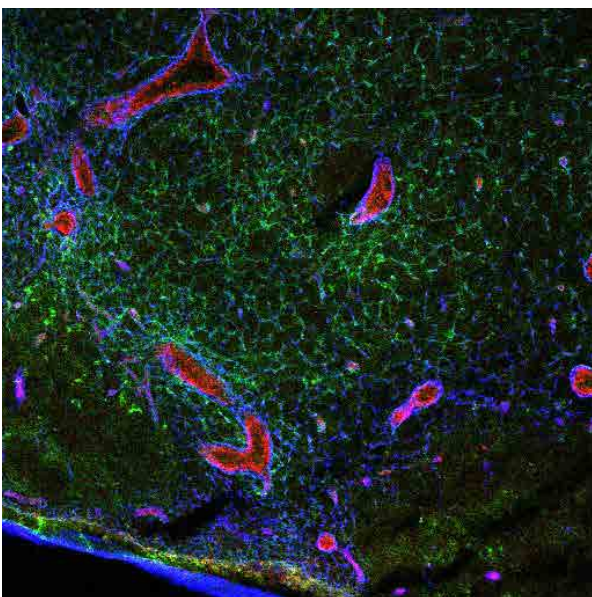
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Haematopoietic stem cell transplantation is used to rebuild the immune system following radiation and chemotherapy for haematological malignancies and non-malignant diseases. In older recipients, reduced uptake of transplanted stem cells and poor immune recovery cause major clinical problems. Our lab employs cutting-edge technologies and innovative pre-clinical systems to uncover immunological barriers to stem cell engraftment and define new therapeutic approaches that improve stem cell transplantation outcomes and immune function.

Research Projects

1. Investigating the post-transplantation fate of mesenchymal stem/stromal cells
2. Improving haematopoietic stem cell engraftment with minimal conditioning
3. Boosting post-transplant immune function and vaccine response in old age



Stromal cells (blue, green) and endothelial cells (red) in the lymph node.

Selected significant publications:

1. Morison J, Homann J, Layton D, Chidgey A, Boyd R, **Heng T**. 2014. Establishment of transplantation tolerance via minimal conditioning in aged recipients. *American Journal of Transplantation* 14, 2478-2490.
2. Mathias L, Khong S, Spyroglou L, Payne N, Siatskas C, Thorburn A, Boyd R, **Heng T**. 2013. Alveolar macrophages are critical for the inhibition of allergic asthma by mesenchymal stromal cells. *The Journal of Immunology* 191, 5914-24.
3. Mingueneau M*, Kreslavsky T*, Gray D*, **Heng T* (*joint first)**, Cruse R, Ericson J, Bendall S, Spitzer M, Nolan G, Kobayashi K, von Boehmer H, Mathis D, Benoist C; the Immunological Genome Consortium. 2013. The transcriptional landscape of T cell differentiation. *Nature Immunology* 14, 619-32.
4. **Heng T**, Reiseger J, Fletcher A, Leggatt G, White O, Vlahos K, Frazer I, Turner S, Boyd R. 2012. Impact of sex steroid ablation on viral, tumour and vaccine responses in aged mice. *PLoS ONE* 7, e42677.
5. **Heng T**, Painter M, Immunological Genome Project Consortium. 2008. The Immunological Genome Project: networks of gene expression in immune cells. *Nature Immunology* 9, 1091-1094.