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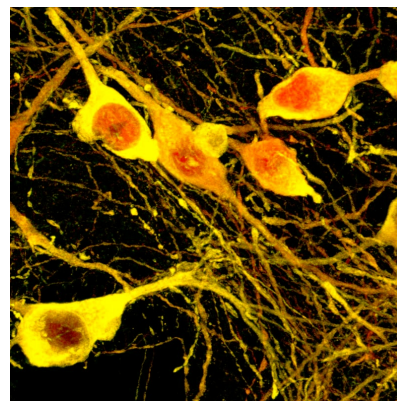
Neural regeneration and repair

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NEURAL REGENERATION AND REPAIR

An accumulating body of evidence is overturning old doctrines to show that the production of new neurons and oligodendrocytes in both the immature and mature nervous system play a major role in how the mammalian nervous system learns, adapts to a changing environment, and responds to damage or disease. Understanding the mechanisms that regulate stem cell function in these largely post-mitotic tissues will provide the basis for the development of new therapeutic approaches to address common conditions affecting large segments of the population.



Dopamine neurons from stem cells transplanted into the brain (Lachlan Thompson)

In addition, this Program includes the generation of progenitor cells and functional tissue from embryonic and induced pluripotent stem cells, providing new opportunities for drug screening and understanding disease mechanism, and cell therapy.

This program aims to answer key biological questions:

1. Determine the factors regulating endogenous neural precursor maintenance and differentiation in health and disease.
2. Define how to produce specific neural phenotypes from in-vitro-generated stem cells.
3. Understand the function of neural precursor progeny in the central nervous system.

Led by [Professor Perry Bartlett](#) and [Professor Trevor Kilpatrick](#), this program includes experts in adult tissue stem cells from the University of Queensland,



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