Stem and progenitor cells of the postnatal CNS

https://neurodegenerationresearch.eu/survey/title-of-pistem-and-progenitor-cells-of-the-postnatal-cns/

Title of project or programme

Title of PI Stem and progenitor cells of the postnatal CNS

Principal Investigators of project/programme grant

Title	Forname	Surname	Institution	Country
Professor	William	Richardson	University College London	UK

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Medical Research Council

Total sum awarded (Euro)

2273933.41

Start date of award

16-01-2009

Total duration of award in months

60

The project/programme is most relevant to

- Motor neurone diseases

Keywords

Research abstract in English

We showed recently that the adult forebrain subventricular zone (SVZ) contains a mixture of stem

cells that have spatially diverse origins in the embryonic telencephalon and different neurogenic properties in the adult. We shall use genetically manipulated mice to dissect the roles of these different SVZ stem cell sub-populations in adult olfactory neurogenesis and olfactory behaviour, and their possibly distinct regenerative responses to damage. There are also stem cells in the adult spinal cord ependymal zone (EZ) surrounding the central canal. By analogy with the SVZ, the EZ might be expected to inherit the spatially patterned cell fate restrictions of the embryonic neuroepithelium. We will test this by mapping the embryonic origins of the EZ and asking whether embryonic ancestry predicts adult stem cell response to degenerative disease (a genetic model of motor neuron disease), demyelination or physical injury. Finally, we shall examine the role of NG2 cells (an abundant and ubiquitous population of progenitor cells in the adult CNS) in adult gliogenesis and cortical neurogenesis, testing the ideas that de novo myelination of previously naked axons contributes to neural plasticity and that adult-born cortical projection neurons likewise have a significant functional role.

Lay summary
In which category does this research fall?

- Basic research