PROJECT RESUME

Microglia are mononuclear macrophages that colonise the central nervous system (CNS) early in development and have significant neuroprotective and trophic rotes. They also act to prune the developing CNS, thus have an impact upon CNS architecture. Microglia function is heavily influenced by the gut microbiome and it is known that the gut is rapidly colonized peri-postnatally at a time when the CNS is stiII developing. Thus the gut rriicrobiome has the potential to modulate the development of the CNS. We will use germ free transgenic zebrafish embryos that have red fluorescent microglia and green fluorescent neurons to investigate the: impact of the microbiome upon the developing CNS. We will live image the birth and migration of microglia into the CNS, the subsequent interaction between the developing neurons and the microglia and any changes this has upon neuronal architecture.

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