PROJECT RESUME

The vasculature of the brain forms during embryonic development from endothelial cells that have to enter the neural tube from outside the brain. It is currently unknown what triggers the ingression of endothelial cells. Tissue hypoxia within the developing neural tube could play a role, but few studies have analysed hypoxia during embryogenesis. At the molecular level, hypoxic conditions stabilise the transcription factor HIF1α, which subsequently activates the expression of angiogenic genes. For the project, we propose to use this mechanism as a read-out for hypoxia at cellular level, by utilising a HIF reporter construct. The project aims to test whether tissue hypoxia in the neural tube is correlated with the time of endothelial ingression. Results from this study will lay the foundation for future work to investigate if hypoxia is instrumental in regulating brain vascularisation.