

Supervisor: Dr Alan McIntyre

Project title: Epigenetic regulation of gene expression in tumour hypoxia.

Description:

Regions of low oxygen (**hypoxia**) are frequently found in solid tumours. Clinically, hypoxia is associated with worse patient survival and resistance to chemotherapy and radiotherapy. Therefore developing new strategies to target the hypoxic microenvironment is critical for improving patient outcome. HIF1 α and HIF2 α are transcription factors that are stabilised in hypoxia leading to changes in key genes which trigger more aggressive growth, survival and metastasis, and contribute to the major hallmarks of cancer. Additional epigenetic regulations are required, for the large-scale gene expression changes that occur in hypoxia this project aims to investigate these. This work will lead to novel approaches to targeting the hypoxic regions of tumours.

Theme(s): Epigenetics, gene expression, functional studies, tumour microenvironment

Keywords: Cancer, epigenetics, hypoxia, acetylation, tumour microenvironment, functional analyses, 3D culture.

Fee band: High cost laboratory-based research

Available to Home & EU students/International Students

Please email a CV with a covering letter to Dr Alan McIntyre (alan.mcintyre@nottingham.ac.uk), who can also supply more information to interested parties.

<http://www.nottingham.ac.uk/medicine/people/alan.mcintyre>