Louvain Technology Transfer Office

TECHNOLOGY OFFERS | MATERIAL TRANSFER SOFTWARE LICENSE SERVICES

ENGINEERING | BIOTECH / HEALTH | MATERIALS / ENERGY | GREEN / FOOD

In vivo and *in vitro* expertise using magnetic resonance technologies

KEYWORDS

- MR Imaging
- Metabolism
- Micro-environment
- Spectroscopy

Technology Market

The Nuclear & Electron Spin Technologies platform (NEST) accommodates cutting-edge magnetic resonance technologies (magnetic resonance imaging, electron paramagnetic resonance and nuclear magnetic resonance) dedicated to studies on biological samples, small animals and humans. These technologies may provide convenient biomarkers for monitoring (pato) physiological parameters and the response to pharmacological treatments.

The UCL background

Nuclear magnetic resonance

- Metabolomics study on biological samples
- Saturation transfer difference
- 2D homonuclear and heteronuclear
- HRMAS experiment on biopsies

Magnetic resonance imaging

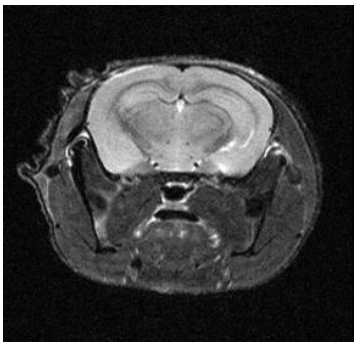
- *In vivo* anatomical structures with high spatial resolution
- Metabolism (spectroscopy)
- Cardiac and vascular imaging
- Tissue perfusion
- Diffusion measurement

Dynamic nuclear polarization

- Study of metabolic fluxes using ^{13}C-MRS as biomarker of response (*in-vitro* and *in-vivo*)
- Use of ^{13}C pyruvate and its metabolites as biomarker of metabolism and glycolysis
- Use of ^{13}C glutamine and its conversion into glutamate to study metabolic shifts
- Use of hyperpolarized substrates for the stratification of tumors

Electron paramagnetic resonance

- Free radicals characterization, redox status
- Quantification of melanin / melanoma cells in tissues
- Dosimetry
- Tissue oxygenation, oxygen consumption (cells and mitochondria)
- MRI contrast agent quantification



In vivo imaging of mouse brain

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INTERESTED TO BENEFIT FROM THESE SERVICES?

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