

UCL-MIRO PRECLINICAL RESEARCH

The centre of Molecular Imaging, Radiotherapy, and Oncology (MIRO) has developed an integrated platform to carry out preclinical studies in radiotherapy, radiobiology, nuclear medicine, oncology, neurology, and cardiology. The platform results from the joint forces of several former research units that have merged into MIRO.

Research axes & expertise

The MIRO platform for preclinical studies comprises experts in biology, radiobiology, and molecular imaging. As to the equipment, the platform includes its own animal facility, an autoradiographer, an irradiator, a SPECT-CT, and micro-PET, all suitable for small animals. The platform also benefits from the proximity of a radiochemistry laboratory and a cyclotron.

Application fields

MIRO works on the evaluation of the determinants of tumour radioresponse and the influence of tumour microenvironment. MIRO has developed several PET tracers for the assessment of tumour metabolism (EF3, FAZA, FPA,...), which were validated in murine tumour models.

Major projects/partnerships/collaborations

In collaboration with the Unit of Pharmacology and Therapeutics (FATH) and the Magnetic Resonance group (REMA) at UCLouvain, MIRO investigates how the tumour microenvironment influences tumour progression and response to treatment. Current projects also include the influence of HPV (human papillomavirus) infection on the response to radiotherapy of oropharyngeal, head and neck carcinomas.

Key figures

Integrated platform with animal facility, PET system, SPECT/CT system, autoradiographer, irradiator, radiochemistry and radiopharmacy lab. The group has produced more than 180 peer-reviewed publications.

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