ETM/405 - Mitochondrial Poisoning As A Novel Strategy To Overcome Radiation Resistance Of Glioblastoma

Glioblastoma (GBM) is the most common and lethal adult brain tumour; average life expectancy is around one year. Brain tumour research is currently underfunded and new treatments are urgently required to improve the outlook for patients with this incurable disease. The purpose of this project is to evaluate the clinical potential of a novel treatment strategy for GBM. Based on promising pilot data we will test whether targeting mitochondrial function, alone or in combination with anti-VEGF/VEGFR2 therapy, can overcome the innate radiation resistance of GBM in clinically relevant, 3-dimensional *in vitro* and *in vivo* models. By increasing the radiation sensitivity of GBM in a tumour-specific manner we aim to enhance tumour control rates, extend survival and improve quality of life without increasing side-effects. We also aim to identify biomarkers that predict response to the new treatment; this will enable patient selection, thus enhancing clinical application and cost effectiveness.