



The  
**Neurosciences**  
Foundation

## Brain tumours

**The Neurosciences Foundation** aims to support early stage research that will be of potential benefit to patients. Here is an example of one of our current projects in **cancer**.

In the UK over 10,000 new brain tumour cases are recorded every year. Glioblastoma is one of the more aggressive of these. Recent laboratory research into the onset of these tumours has suggested that there could be irregularities within a protein called PARP that has a role in the repair of breaks in DNA strands.

To study this in patients the researchers are using a medical imaging technique called PET [positron emission tomography]. In PET special biological substances called tracers that emit tiny amounts of radiation are used. The tracers mimic normal biological function. They are injected into patients and their paths through the body can be tracked. This shows whether abnormally high or abnormally low amounts of the substances are getting to specific parts of the body, and any irregularities give clues as to what's going wrong. In this case the tracer needs to show whether or not the amounts of PARP are abnormal in brain tumours and whether anticancer drugs affect this. There is currently no tracer for PARP and the research programme aims to develop one.

In Glasgow there are two clinical PET scanners at the Beatson Cancer Centre and an experimental scanner at the nearby Beatson Cancer Research Institute where new techniques like this can be evaluated.



The research team is led by Dr Sally Pimlott, a specialist in the production of PET materials; Anthony Chalmers, Professor of Clinical Oncology at the University of Glasgow; and Dr Andrew Sutherland, an organic chemist with experience of PET tracer development. The Neurosciences Foundation awarded £35,000 to support this work. Additional support was received from SINAPSE, a pan University group supporting medical imaging, and a sponsored cycling event.

*Any donations towards our current medical research projects enable Neurosciences Foundation funds to be used to support future projects. Contributions can be made by going to <https://mydonate.bt.com/donation/start.html?charity=148827>. If you would like your contribution to be towards this specific project please specify that when making the donation. Thank you.*