Cambridge PET Neurochemist Training Programme

https://neurodegenerationresearch.eu/survey/cambridge-pet-neurochemist-training-programme/

Title of project or programme

Cambridge PET Neurochemist Training Programme

Principal Investigators of project/programme grant

Title	Forname	Surname	Institution	Country
Dr	Franklin	Aigbirhio	University of Cambridge	UK

Address of institution of lead PI

Institution	University of Cambridge, Wolfson Brain Imaging Centre
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Country

United Kingdom

Source of funding information

Medical Research Council

Total sum awarded (Euro)

699505.41

Start date of award

01-03-2010

Total duration of award in months

48

The project/programme is most relevant to

Neurodegenerative disease in general

Keywords
Research abstract in English

To address one of the major restrictions on the use of the molecular imaging technique of positron emission tomography (PET) for neuroscience research at Cambridge, the lack of trained PET chemists to design and prepare the required brain imaging probes, proposed is an integrated

programme of training and research. In partnership with PET centres, academic and industrial, in the US and Europe we have constructed a training programme designed to train a post-doctoral scientist with a PhD background in chemistry to group leader capability within four yours. Integrated with this training, is the development of probes for the 5-HT2a receptors and beta-amyloid plaques and in the second phase of the programme collaboration with Siemens in the development of novel imaging probes for neurofibrillary tangles, one of the main neuropathological features of Alzheimer s disease (AD) and other dementias.

The tracers will then be applied to PET imaging projects in the area of neuropsychiatric and neurodegenerative disorders, with a focus on 1) preclinical studies that have significant translational aspects and 2) human research projects targeted toward understanding the mechanisms of neurological diseases and thereby identifying potential therapeutics. The proposed projects include; i) studies on impulsivity based on imaging 5-HT2a receptors on rats with this behavioural trait; ii) imaging serotonergic modulation in marmosets to investigate mechanistic components common to various neuropsychiatric disorders such of schizophrenia, depression and obsessive compulsive disorder; iii) the role of 5-HT2a in frontotemporal dementia and iv) evaluation of the novel beta-amyloid tracer in AD and MCI patients and normal control subjects, coupled with autoradiographic experiments on brain tissue.

Lay summary