The emerging role of RAS in Alzheimer's disease and dementia

The Dementia Research Group at Bristol is the most widely published group and thus to the forefront of the emerging involvement of the renin angiotensin system (RAS) in the pathology of Alzheimer's disease. Over the last decade the work by members of the group has provided the largest body of data investigating the role of the pathway in post mortem human brain tissue to provide the requisite translational bridge between pre-clinical in vitro and in vivo modelling of the role of RAS in AD with observational studies in populations. Changes to the classical RAS pathway and more recently a counter-regulatory pathway are consistently associated with the pathology of Alzheimer's disease. The net effect of these changes now strongly supports the involvement of angiotensin II signalling and its multifunctional properties in numerous aspects of Alzheimer pathology and reinforces its candidacy as a viable therapeutic target for Alzheimer's disease. Successful interference with angiotensin II signalling is likely to have a positive effect on the likely roles of angiotensin II in inflammatory, neurotoxic and anti-cholinergic mechanisms in AD as well as influencing blood flow around the brain with potential involvement in other important signalling cell signalling mechanisms.

The Bristol Dementia Group is one of the largest research groups in Clinical Neuroscience in the Faculty of Health Sciences and is based at the state-of-the-art Learning and Research Building at the new Southmead Hospital, Bristol. We invite proposals from prospective self- or externally funded PhD students of a potential course of work to further explore aspects of RAS involvement in Alzheimer's disease or other forms of dementia building on and related to research also undertaken by the group to-date. The Bristol Dementia Group has a wide and extensive network of collaborators that provides broad scope in which to frame a focused project and we welcome proposals that are novel and seek to address existing gaps in existing knowledge or to extend existing knowledge. This will provide a fantastic opportunity for motivated students to frame a PhD to their own hypothesis driven work, and link with one of the leading International Groups in this area of research.

At present applications are welcomed from people who are self-funded or in receipt of a full scholarship to meet the anticipated costs of postgraduate study at the University of Bristol (http://www.bristol.ac.uk/international/fees-finance/).

Subject areas: Neuroscience/neurology; Medical/Clinical science; Biochemistry; Pathology; Pharmacology/Toxicology; Pharmaceutical Chemistry

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