

The Department of Anatomy & Neurosciences of the VU University Medical Center in Amsterdam together with the Department of Cell Biology of the University Medical Center Groningen is seeking applications for a

PhD-student in Neuroscience

Project Title

Tissue Transglutaminase in astrogliosis and oligodendrocyte differentiation: towards improved remyelination

Project outline

Key neuropathological processes in Multiple Sclerosis (MS) are inflammation, demyelination and subsequent axonal damage. When MS progresses, astrogliosis and failure of remyelination are two intermingled neuropathological features that become more evident resulting in neurodegeneration and long-lasting neurological deficits. Astrogliosis is considered as a major mechanical impediment to remyelination and axonal regeneration in MS. Firm interaction of the astrocytes with extracellular matrix proteins is likely to be involved in astrogliosis. Interestingly, tissue Transglutaminase (TG2), a multifunctional, Ca^{2+} dependent enzyme with pleiotropic effects can possibly mediate interactions between astrocytes and the extracellular matrix e.g. fibronectin, and facilitate aggregation of fibronectin. If so, this may impair oligodendrocyte migration and remyelination. Additionally, TG2 can enhance cell differentiation and may possibly play a role in oligodendrocyte differentiation thereby promoting remyelination.

This project aims at better understanding the role of TG2 in astrogliosis and remyelination which we consider is of great importance to improve the pathological and clinical outcome of MS.

Research groups

The vacancy is in the Cellular Neuroscience group, VUmc (dr. A.M.W. van Dam), and the project will be performed in close collaboration with the Membrane Cell Biology group, UMCG (dr. W. Baron). The project forms part of the research program of the Neuroscience Campus Amsterdam.

Suitable candidates

We are looking for candidates with a master degree in Neuroscience, (Medical) Biology or Cell Biology. Experience with molecular and cellular techniques is a prerequisite. Animal experience (art. 9) is an advantage. We expect a strong motivation to pursue a scientific career.

Employment conditions

The project provides for a temporary full-time (36 h/week) position for up to four (4) years. The salary and other benefits are according to those of the "promovendus" scale of the Dutch Collective Labour Agreement for Academic Hospitals (CAO-UMC). The candidate will be hosted at the VUmc, but will perform part of the project at the UMCG.

Applications and information

Applications should include a CV, a cover letter and suggested references and should be send by e-mail before September 1st to dr. A.M.W. van Dam: amw.vandam@vumc.nl. Further information about the vacancy can be obtained from dr. A.M.W. van Dam or dr. W. Baron: w.baron@med.umcg.nl.