



The role of metal transport in regulating Stem cell Fates

Postdoc (3 yr)

About us: The overall aim of the Vooijs group is to identify actionable targets in the Notch signalling cascade that can be used to target cancers safely or to promote normal tissue regeneration. We have excellent research facilities and a multidisciplinary science program and are part of a Maastricht Comprehensive Cancer Center.

Your role: will involve characterizing the role of a metal transporter (Dmt1) in intracellular vesicles on Notch regulation that was identified in our lab as a novel and essential regulator of Notch activity in stem cells. The key objectives are 1) To identify how this metal transporter affects Notch localization, trafficking and transcriptional activity and 2) to direct cell differentiation or promote self-renewal by modulate Notch activity through metal transporter activity. You will apply pharmacological, gain and loss of function approaches in Notch-dependent 3D organoid (patient) models, generate knock-in cell lines expressing fluorescently tagged endogenous Notch proteins to follow their fate to allow dynamic high-resolution live imaging (Confocal, STED, EM) and in vivo tissue expression analysis to decipher how metal transporters influence Notch activity and can be used to control direct cell differentiation and cell renewal in disease and regenerative applications. (References: Hounjet Biomolecules. 2021, Giuranno Stem Cell Transl. Med. 2020, Hounjet et al., Oncogene 2019).

Requirements: We are looking for an ambitious Postdoc with a background and track record in molecular and (stem) cell biology. Experience with (live) optical imaging is preferred. Proficiency in English and good communicative skills and team player mentality is a must. Job responsibilities postdoc also include the co-supervision of (PhD) students and technicians in the Notch group.

Our conditions of Employment: 32 months according to the collective labour agreement of Dutch Universities. Start 1st January 2023.

Your workplace: Maastricht University, GROW Institute for Oncology. At the department of Radiotherapy, we conduct fundamental and translational research and are affiliated with the MAASTRO patient clinic and the Maastricht Comprehensive Cancer Centre. The department has four PI led groups with research themes in tumour cell metabolism, cell death, extracellular vesicles and Notch signaling and stem cell fate. Furthermore, we have core facilities for NextGen sequencing, iPSC facility, high resolution (live) optical and (cryo) electron microscopy and mass spectrometry imaging (M4I).

Information: marc.vooijs@maastrichtuniversity.nl and www.maastrolab.nl

Application: Submit one pdf file with a cover letter including a summary of your research experience, scientific interests and academic and career goals, CV and contact info for three references.