

## Targeting Tumor Hypoxia

A EU program grant has been obtained to study the role of the Hypoxia signaling pathway in the malignant behavior and treatment resistance of human cancer.

### Job description

**The key objectives** are to develop models that enable the in vivo identification and targeting of hypoxic tumor cells before and during radiotherapy and to develop novel drug (approaches) to target treatment resistant (hypoxic) cancer stem cells. Specifically, CRISPR/CAS9 gene-targeting in embryonic stem cells will be used to engineer novel mouse strains and primary cells to transiently and permanently label hypoxic cells in vivo with marker genes to study their fate during tumor growth and in response to therapy. The causal role of hypoxic cells in malignant behavior and treatment resistance will be directly tested in vivo using novel cell ablation techniques. Hypoxic cells will also be characterized ex vivo. Your research integrates with ongoing research lines on basic and translational aspects of Notch signaling in cancer, the development of preclinical models for human lung and brain cancer and to other projects in Maastro working on targeting the microenvironment of tumors.

**Contract type:** Temporary, All positions start with a 1-year contract in 2016, which may be extended depending on performance to a maximum duration of 4 years.

**Conditions of employment:** according to the collective labor agreement of Dutch Universities.

### Requirements

#### We are looking for:

**1 PhD (4 yr):** Highly motivated students with a proven track record and a MSc in biomedical sciences. He/she will closely work together in a team to develop and characterize mouse models to enable tracing of hypoxic tumor cells in vivo and will be involved in testing novel anti-cancer compounds. Experience in molecular cloning is preferred.

**General Profile:** You are open-minded, independent, result-oriented individual with a strong international orientation. You are fluent in English, both in writing and speech. We are looking for a positively minded scientist motivated to learn new approaches and ready to work hard to build a scientific career in the area of basic and translational oncology research.

**Organisation:** Maastricht University, GROW Institute for Oncology and Developmental Biology ([www.grow-um.nl](http://www.grow-um.nl))

**Department:** MAASTRO Lab is a basic and translational research laboratory embedded within the GROW research institute of the Faculty of Health, Medicine and Life Sciences at Maastricht University and closely affiliated with Maastro patient clinic. Current research is focused on exploiting the tumour microenvironment to improve treatment response. MAASTRO Lab has made several important discoveries in these fields that have been implemented in patient studies. The lab has 4 permanent scientists, 4 technicians, more than 10 PhD students and 7 Post-Docs and is fully equipped for cell culture, molecular and cellular biology advanced microscopy and access to preclinical imaging facilities (optical imager, irradiator + CT and bioluminescence, uMRI , uPET, echo).

**Additional information:** dr Marc Vooijs [marc.vooijs@maastrichtuniversity.nl](mailto:marc.vooijs@maastrichtuniversity.nl) and [www.maastrolab.com](http://www.maastrolab.com)

**Applications:** include a motivation letter and curriculum vitae to [marc.vooijs@maastrichtuniversity.nl](mailto:marc.vooijs@maastrichtuniversity.nl).  
Deadline 5 march.