

Utlysning

Project title

Human pluripotent stem cell-based models of human developmental hematopoiesis

Project duration and dates

3-months project, to be carried out from August 10th 2022 to November 10th 2022.

Application deadline: June 27th 2022.

Amount: Stipend of 15 000 SEK/month

Project Summary

Human pluripotent stem cells (hPSCs) have near-indefinite expansion potential, and the ability to differentiate into every cell type in the body. As *in vitro* differentiation of hPSCs mimics defined processes of embryonic development, it represents a promising model to dissect the molecular impact of pre-leukemic mutations that may arise before birth, and that underly the emergence of childhood leukemia. However, the development of the blood system is especially challenging to model *in vitro*, as embryonic blood develops through successive waves in multiple anatomical locations, in close association with the endothelial cells forming the developing circulatory system. Our research group harnesses novel hPSC differentiation protocols as well as emerging single-cell profiling technologies to address this challenge.

This project aims to link high-throughput imaging with flow cytometry data to evaluate gastruloid-based approaches for stepwise development of hPSCs towards mesoderm, endothelium and hematopoietic cell fate.

Applicant

We are looking for a highly motivated and dedicated candidate, who wishes to gain in-depth expertise in stem cell and developmental biology, hematology and molecular mechanisms of differentiation. This project is intended for a candidate who has completed their Masters degree, and who is interested in pursuing an academic career by enrolling in a PhD in the future.

Preference will be given to candidates who already have prior experience in aseptic cell culture techniques, hPSC expansion and differentiation, flow cytometry, hematopoietic colony-forming unit assays and high-throughput imaging. Well-ranked candidates showing high interest in acquiring this hands-on training will also be considered.

Application

Send by e-mail to carolina.guibentif@gu.se the following documentation, as attached pdf files: *Curriculum Vitae*, motivation letter, contact details for at least two references (phone number and e-mail address). Deadline: 2022-06-27.