SAHLGRENSKA AKADEMIN
INSTITUTIONEN FÖR BIOMEDICIN

Diarienr: GU 2024/1359

Institutionen för biomedicin

2024-05-06

Avdelningen för Medical Biochemistry and Cell Biology
Handledare: Sjoerd van der Post
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Utlysning av stipendium – postdoktor

Härmed utlyses stipendium i undersökning för extracellulära komponenter som inducerar NOX1-uttryck och cellspridning vid institutionen för biomedicin, avdelningen för medicinsk kemi och cellbiologi.

Utlysningen avser ett stipendium under tiden 2024-06-04 – 2025-06-03

För mer information kontakta Sjoerd van der Post på telefon: 079 336 7872 eller email: Sjoerd.van.der.post@medkem.gu.se

Project

Redox signaling plays an important role in the intestine by regulating various cellular processes including cell proliferation, differentiation, apoptosis and inflammation. Reactive oxygen species (ROS) produced in the gut can act as signaling molecules that transmit information between cells and modulate the activity of proteins involved in key regulatory pathways. This aids to the maintainence of cellular homeostasis, promote tissue repair and defend against harmful microorganisms. Dysregulation of redox signaling has been linked to several intestinal disorders such as inflammatory bowel disease and colon cancer. The research in our lab is focused on how the NADPH oxidase family member 1 (NOX1) enzyme contributes to the regulation of intestinal stem cell proliferation via redox signaling. The regulators of both basal and inducible NOX1 transcription are completely unexplored and will aid

to our understanding on how proliferation is controlled in the intestinal crypt. This project aims to establish how NOX1 expression and proliferation are regulated in intestinal stem cell via extracellular cues from both the immune system and the commensal microbiota. With the goal of regulating NOX1 expression and proliferation in vivo when the tissue is challenged such as in inflammatory bowel disease. By developing strategies to modulate intestinal stem cell proliferation via the diet or supplements.

Required skills

- Epithelial and stem cell biology
- Advanced cell culture (e.g transwell systems, primary cells and organoids)
- Quantitative PCR analysis
- Cell based screening assays
- Confocal microscopy
- Laboratory animal handeling

Additional advantages (not required)

- Experience with live cell imaging
- Bioinformatics (e.g analysis of quantitative proteomics data)

Application should be e-mailed to sjoerd.van.der.post@medkem.gu.se

The application should include:

- A brief motivation letter,
- Curriculum Vitae including the contact details of two references
- Proof of completed PhD