



THE SAHLGRENKA ACADEMY
INSTITUTE OF MEDICINE

Department of Molecular and Clinical Medicine
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Announcement - scholarship at postdoctoral level

The Department of Molecular and Clinical medicine at the Institute of Medicine hereby announces a scholarship at postdoctoral level in microbiome research.

Plan for advancement

Subject

How diet affects the microbiome and host glucose metabolism

Background

Up to 90% of the cells in the human body are of microbial origin. We have demonstrated that the gut microbiota may have profound effects on the host and that altered microbial composition is associated with cardiometabolic diseases. This altered microbiota produces imidazole propionate that is causally linked to disease, but there is limited knowledge on why, how and when the metabolite is produced.

Purpose

By using different techniques ranging from batch cultures, bioreactors, mice and human data we will examine under which ecological conditions imidazole propionate is produced and how the production is regulated.

Method

The successful candidate will analyze the microbiota in a large prospective cohort to determine the ecological framework under which specific metabolites are produced. Subsequently, he or she will use fecal samples and defined bacterial consortia in batch cultures, bioreactors, and mice to investigate how bacterial interactions, dietary factors, and environmental conditions influence the production of imidazole propionate. The successful applicant will also analyze imidazole propionate using Mass spectrometer.

Time plan

The first year we will be working on the cohorts and in vitro and during the second confirm findings in animal studies.

Outcome

Increased knowledge on how the gut microbiota may contribute to cardiometabolic diseases through production of imidazole propionate. The successful applicant will also be generally trained in microbiome and cardiometabolic science. If successful, the candidate should be well-prepared for a future career in academia and/or industry.

Period

2026-09-01 – 2028-08-31

Financing

A total of 644,000 SEK will be paid for the whole period.

If you require any further information, please contact professor Fredrik Bäckhed, fredrik@wlab.gu.se, supervisor.

Application

To apply please fill out the form "Application for a scholarship at postdoctoral level" and send it to professor Fredrik Bäckhed, fredrik@wlab.gu.se, supervisor.

Please attach a copy of your PhD certificate with the application. PhD must be completed within three years of the application deadline.

Closing date is 2026-06-16