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THE SAHLGRENSKA ACADEMY
INSTITUTE OF MEDICINE

Department of Molecular and Clinical Medicine
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Announcement - scholarship at undergraduate/advanced level

The Department of Molecular and Clinical Medicine, Institute of Medicine, hereby announces a vacant scholarship at undergraduate/advanced level in research subject to **Explore the role of microbial metabolite, imidazole propionate (ImP), in cardiometabolic disorders.**

Training plan

Subject

Explore the role of microbial metabolite, imidazole propionate (ImP), in cardiometabolic disorders.

Background

The global burden of cardiometabolic diseases is increasing world-wide. Recent studies have shown that gut microbiota comprising about 100 trillion micro-organisms can contribute immensely to our metabolic capacities and are altered in cardiometabolic diseases. Recent work from our research group showed that individuals with type 2 diabetes (T2D) have an altered gut microbiota that has enhanced capacity to produce ImP from histidine. It is also important to investigate the causal role of ImP in T2D, and the mechanism involved therein.

Purpose

This research plan aims to help a successful candidate to advance his/her career by studying the role of microbial metabolite in cardiometabolic disorders.

Method

We will employ histological, biochemical and molecular biology techniques (qRT-PCR and/or immunoblotting), to study the role of ImP in T2D via its actions on pancreas.

Time plan

The first and second month, we will be working on developing and/or validating existing histological methodologies to explore the role of ImP in T2D. In the third and fourth month, we will be working on molecular techniques to gain deeper insights into the mechanisms involved therein. During the final month, we will focus on analyzing the data and report writing.

Learning outcome

Understand the role of ImP in T2D via its effects on pancreas, handling and processing of

pancreatic tissue for histological analysis, biochemical measurements in plasma samples, and perform RNA isolation, qPCR, and immunoblotting on pancreatic tissue samples. Experiment design to explore the role of microbial metabolites in cardiometabolic disorders and present their research findings as a report and in a group presentation.

Period
2025-02-01 to 2025-06-30.

Financing
1 payments of 75.000 SEK. A total of 75.000 SEK for the whole period.

If you require any further information, please contact +46737780437, hobby.aggarwal@wlab.gu.se or Fredrik Bäckhed fredrik@wlab.gu.se, supervisors.

Application
To apply please fill out the form “Scholarship application” and send it to supervisor hobby.aggarwal@wlab.gu.se or fredrik@wlab.gu.se.

To be eligible for a scholarship you must be a registered student at undergraduate or advanced level at the University of Gothenburg, other Swedish university or an international university with which the University of Gothenburg has a collaboration agreement.

Please attach a copy of your registration certificate with your application. The certificate must demonstrate that you are a registered student throughout the scholarship period.

Closing date is 2025-01-10.