



Master thesis project

Investigation of non-coding RNAs in inflammatory skin diseases

Background:

Non-coding RNAs are endogenous transcripts that do not code for protein but exert diverse regulatory functions in the cells, regulating e.g. cellular differentiation and inflammatory responses. However, the function of the majority of non-coding RNAs is still unexplored. Skin is our largest organ and an excellent model to study inflammatory responses as well as barrier function. Chronic inflammatory skin diseases such as psoriasis and atopic dermatitis are common, complex diseases, and their pathogenesis is not fully understood.

Project description and aims:

In this project, we will use molecular and cell biology techniques to investigate the role of non-coding RNAs in skin barrier and inflammatory skin diseases and address the following questions:

- Which non-coding RNAs are involved in the formation of the skin barrier and in chronic inflammatory skin diseases?
- How are the identified non-coding RNAs regulated and how do they function?

Methods: The following methods can be included: Primary cell culture, transfections, siRNA-mediated gene silencing, CRISPR/Cas9-based knockout, 3D organotypic models, qRT-PCR, single-molecule in situ hybridization, RNAseq analysis

Desired skills: Experience in cell culture and/or molecular cell biology techniques is advantageous for the position. Proficient knowledge of English is required.

Duration: 6-12 months. Starting date autumn 2024 or upon agreement.

Location: The research work will be conducted at our laboratory at BMC Uppsala.

Contact information:

Interested candidates should submit CV and motivation letter to eniko.sonkoly@medsci.uu.se. For more information about our research, please see: <https://www.uu.se/en/department/medical-sciences/research/research-groups/dermatology-and-venereology/psoriasis-and-atopic-dermatitis>

For any questions regarding the position, do not hesitate to contact us!

We look forward to your application!