


Understanding and therapeutic targeting of Adipose Tissue in Obesity and Cardiometabolic Disease

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Our Research Interests

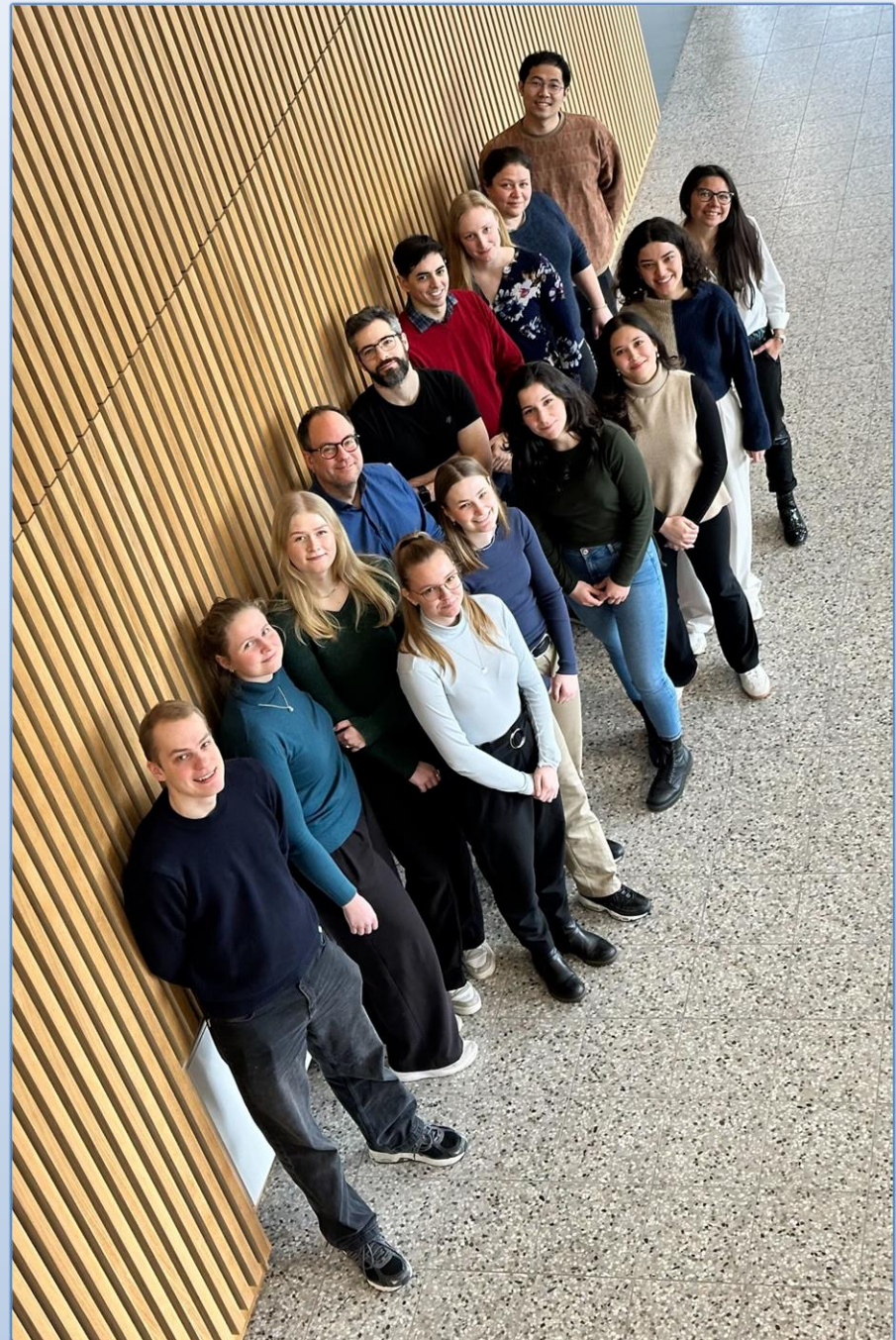
Healthy adipose (fat) tissue is essential for energy homeostasis, whereas aberrant fat adaptation spurs metabolic decline in obesity. Our group has a longstanding interest in understanding altered gene-regulatory circuits in obese fat, and in novel therapeutic approaches for mitigating these in mouse models of cardiometabolic disease.

You will have the chance to study altered **gene-regulatory (miRNA, chromatin) and patho-physiological processes** affect **adipose function in obesity** and, by fat activation, by using novel small molecular drugs, experimental diets, and RNA inhibition, fat tissue becomes healthy and can protect against obesity-associated metabolic disease.

We tackle these **fundamental, therapeutic** and **innovation** questions:

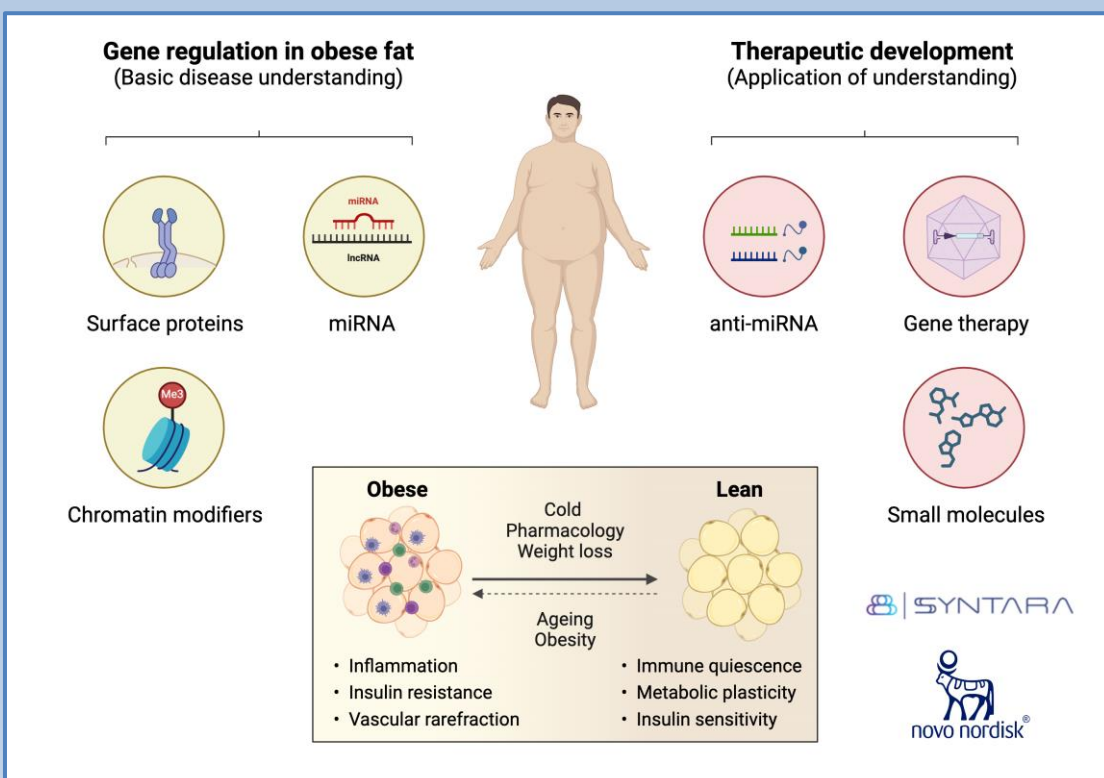
- What are aberrant gene-regulatory circuits in obese fat tissue ?
- What is the **the specific role of miRNAs** in obese adipocytes?
- Can we develop **miRNA inhibitors** to target only adipocytes ?
- How do **histone methyltransferases** control adipose adaptation ?
- Can we use **nutritional approaches** to improve metabolism ?
- Can we use novel **small molecule inhibitors** against obesity ?

In our work, we apply NGS-based approaches (miRNA, mRNA-Seq), primary adipocyte cultures, cellular bioenergetics, and obese mice.



Projects Description

Project Area	Chromatin regulators in obese fat tissue adaptation
Project Area	Novel small molecules drug against obesity
Project Area	Novel RNA therapeutics for adipocyte-targeting



What you can learn in our group (Skills and methodologies)

