

Main research topics

In the Loft Group we are interested in understanding how the **adipose tissue contribute to the development of obesity-related comorbidities**. Our aim is to unravel **the disease-causing molecular mechanisms in the adipose tissue by employing functional genomics** and precise biochemical and physiological assessments in the analysis of patient fat biopsies and mouse disease models. We are particularly interested in the following research themes:

1. Understanding the **Adipose Tissue Heterogeneity** in patients with **Metabolic-Associated Steatotic Liver Disease (MASLD)** (Fig.1).
2. Understanding how **Perivascular Adipose tissue Dysfunction** contribute to **Coronary Artery Disease (CAD) and Microvascular Disease** (Fig.2).
3. Developing **Cell-type Specific Targeting Methods for Adipose Tissue** using tailored viral vector delivery (Fig.3).

Key methodologies in the group encompass **single-cell genomics, advanced bioinformatics, transgenic mouse models, and viral gene delivery** (Fig. 4).



Social events in the Loft Group

We are an international group that love science. We also **love to have fun and do a lot of social activities together**, such as board games, cup painting, eating pizza and attending the Friday afternoon wine club in the FGM research unit.

Identify cellular and molecular features in the adipose tissue associated with MASLD

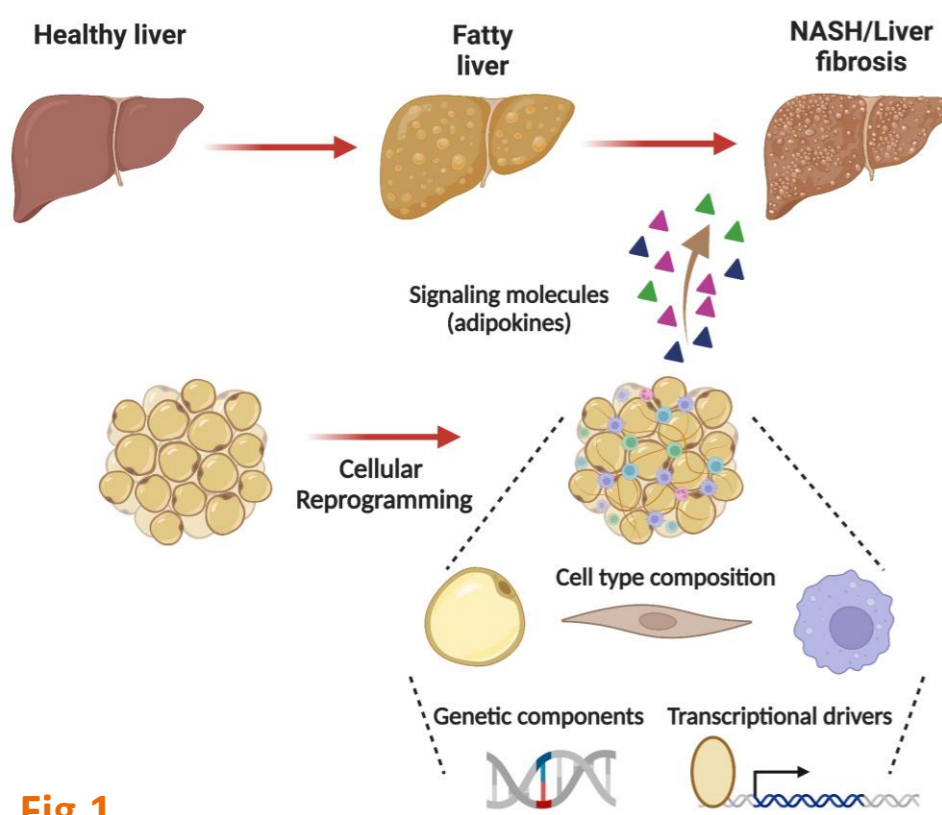


Fig.1

Exploring the link between heart-associated adipose tissue and coronary artery disease

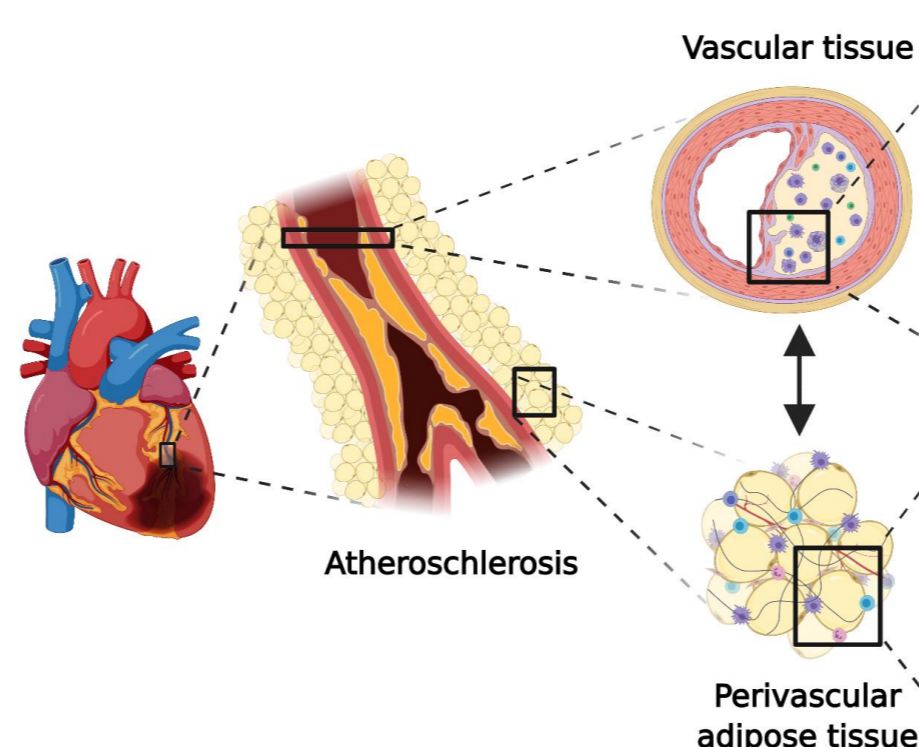


Fig.2

Viral-mediated targeting of specific adipose tissue cell types in mouse disease models

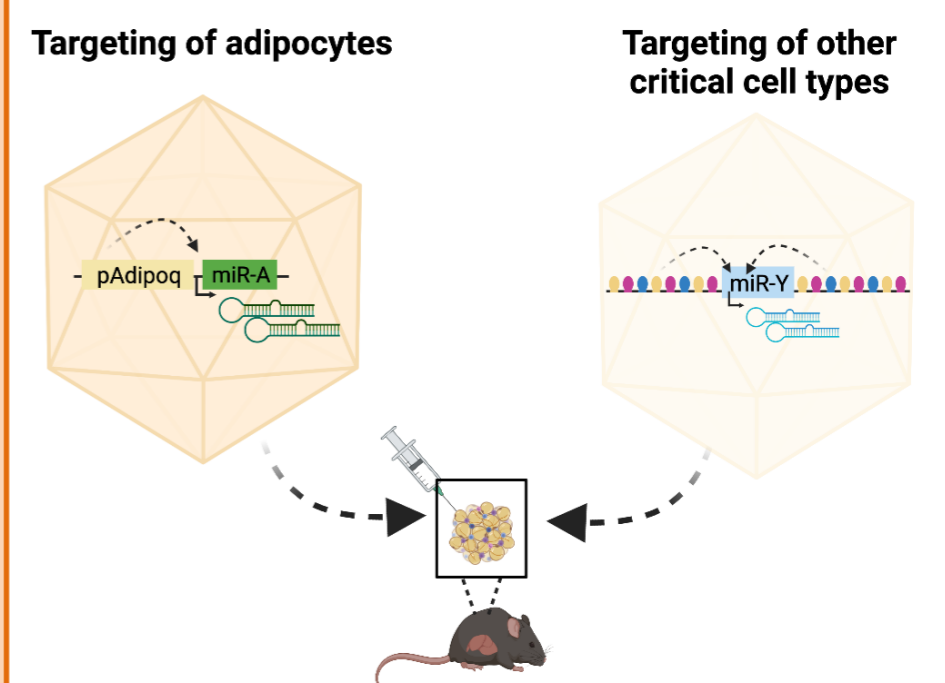


Fig.3

Key Methodologies in the Group

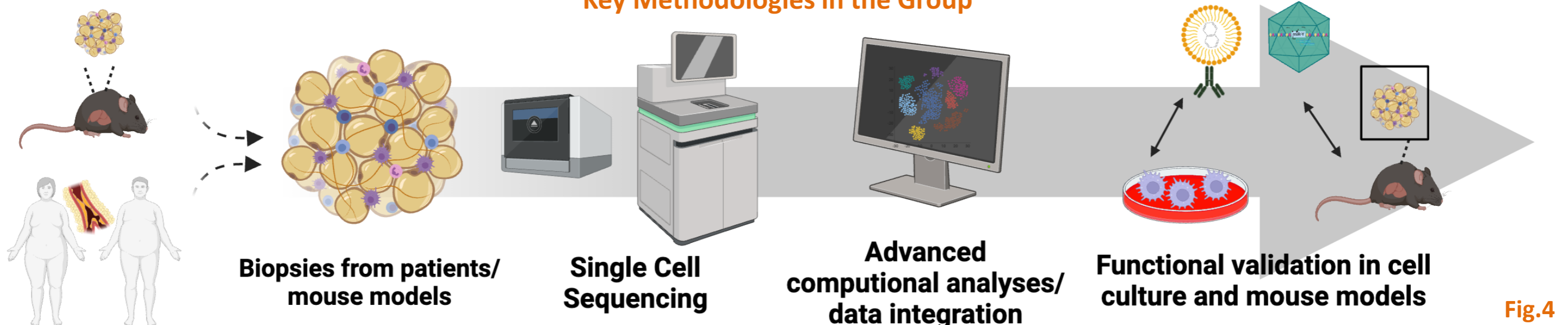


Fig.4

Project example Description

Fat tissue-liver crosstalk in patients with MASLD

Using computational strategies we predict how the the adipose tissue and liver communicate in human MASLD and MASH patients. We functionally validate candidate signaling molecules in relevant cellular and mouse models.

Genetic mechanisms of MASLD linked to fat tissue

Using integrated computational approaches we study how MASH-associated genetic risk variants affect cellular subpopulations in adipose tissue.

Heart-associated fat and atrial fibrillation

Using transcriptomics of patient biopsies, we explore how adipose tissue dysfunction links to different cardiovascular dysfunctions, such as (post-operative) atrial fibrillation.

Join us!



Visit our homepage

If you are interested in conducting a project in the group, please contact: anlo@bmb.sdu.dk; tlf: 2814 5307