Functional lipidomics in health and disease

Forskningsleder Christer Ejsing

Gruppens kerneforskningsområder

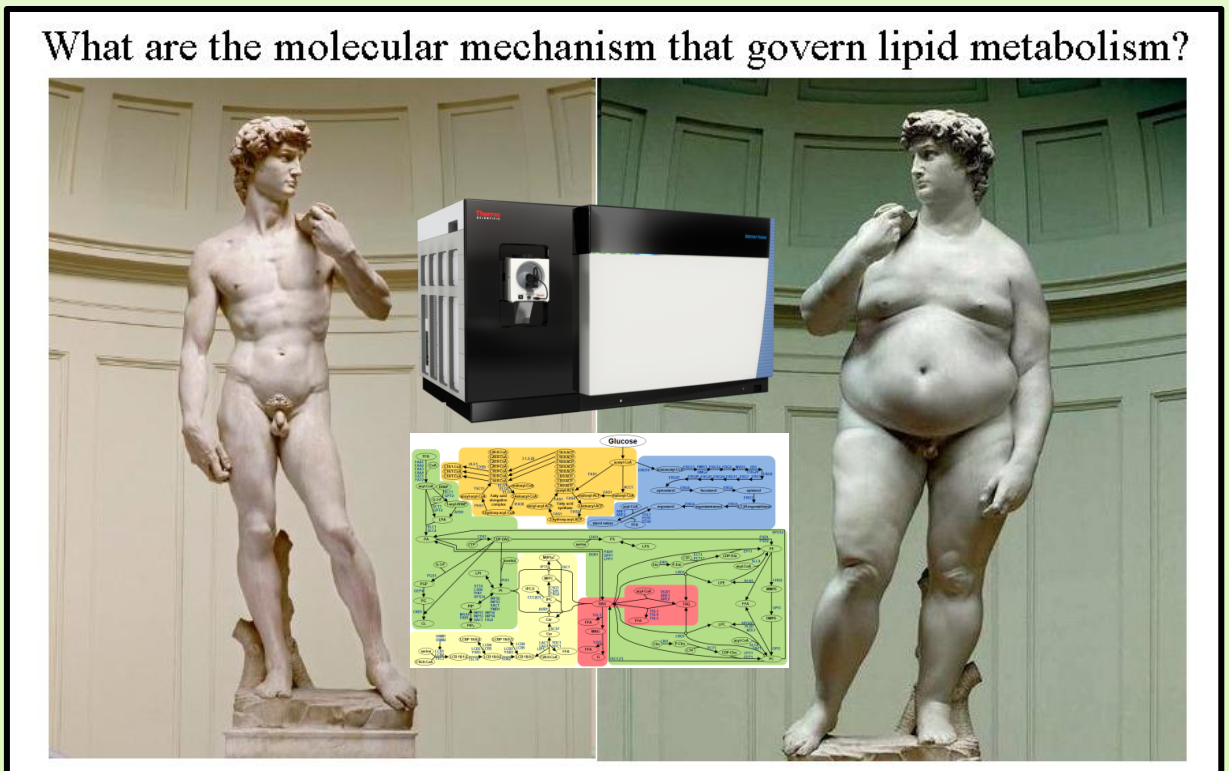
Our research focuses on both development of **mass spectrometric technology** and on functional studies of **how lipid metabolism is regulated in health and disease.**

In our laboratory you will able to **learn mass spectrometry** and utilize this powerful technology to study the **regulation of lipid metabolism** in cells and whole organisms. Our **projects are typically multidisciplinary** and anchored in lipid biochemistry, analytical chemistry and computational data analysis. As such, you will get an opportunity to use a lot of what you have learned in your basic studies.

Experience in mass spectrometry can be highly **beneficial for your future career**. Mass spectrometry technology is continuously evolving, and can provide richer information on dysregulated processes than genomics approaches are able to. Hence, expertise in mass spectrometry is therefore in **high demand in industry and academia**.

We have **numerous ongoing projects** and are continuously **looking for help** to carry out our ambitious research. Not all projects are listed below. **Come and talk to us** and to learn more about your possibilities.

Er du interesseret i at skrive projekt i gruppen, så kontakt : cse@bmb.sdu.dk



Projekter	Beskrivelse
Development of a mass spectrometry-based ceramide synthase activity assay	Recent clinical data show that ceramides are predictive of death in patients with cardiovascular disease (CVD). Moreover, biochemical investigations show that ceramide biosynthesis in the liver is somehow responsible for the higher death rate. To better understand the casual relationship between CVD death and ceramide biosynthesis we currently have an unmet need for enzymatic assays capable of measuring ceramide synthase activity in liver and other tissues.
Profiling of lipid isomers by ozone-induced dissociation and high-resolution mass spectrometry	Intake of polyunsaturated ω-3 and ω-6 fatty acids have for decades been advocated to lower the risk of cardiometabolic disease. Recent clinical data, however, show limited evidence for this claim. Instead, the health benefit of appear to be personalized. To understand this relationship between cardiometabolic disease and intake of polyunsaturated fatty acids, we need technology that can profile lipid isomer molecules with different positions of double bonds in their fatty acid chains. Such a biomarker technology will help clinicians select patients that benefit from dietary advice or pharmacological intervention.