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Company

Lipotype GmbH – founded Dresden, Germany in 2012 – is the leading provider of lipidomics analysis services. Their mass spectrometry-based technology offers identification and quantification of over 3100 different lipid species.

Fats (lipids) play a major role in the human organism but have so far been researched insufficiently. The lipidomics technology of the Dresden-based company allows scientists from different disciplines to analyze and understand lipids, their structure, their metabolism, and their role in various processes.

The international team of molecular biologists, biostatisticians, physicians, biochemists, mass spectrometry specialists and bioinformatics experts led by the company's founder Prof. Dr. Kai Simons has set itself the task of contributing to a better understanding of life and health with the help of detailed access to lipid data.

Currently, about 30 employees work at the company's site in Dresden. Scientists and researchers from Asia, Europe, North America, and South America rely on the analyses of Lipotype GmbH.

» Extensive blood analyses are now a standard procedure in disease research. Yet 99 percent of all blood fats, known as lipids, are ignored: although their role and importance as indicators for various diseases and biological processes is well known, research in this field still receives insufficient attention. It is high time to focus more on lipidomics.«



Prof. Dr. Kai Simons

Professor and Emeritus Director of the Max Planck Institute of Molecular Cell Biology and Genetics in Dresden, and Founder and CEO of Lipotype GmbH

Milestones



2012 **Foundation of Lipotype GmbH** as a spin-off from the laboratories of Kai Simons and Andrej Shevchenko of the Max Planck Institute for Molecular Cell Biology and Genetics



2014 **Market entry** of Lipotype **Shotgun Lipidomics** technology



2016 Lipotype becomes one of the first companies in the industry to make its services available via an **online store**



2017 Introduction of the analysis platform “**Lipotype Skin Lipidomics**”, which specifically focuses on the lipids of the skin



2019 Lipotype becomes the world's first and only **Good Manufacturing Practice (GMP)**-certified lipidomics provider



2020 Lipotype **doubles** its **analytical capacities**



2021 Introduction of “**glycosphingolipids**”, specifically for the analysis of neuronal samples

Technology

Lipidomics, the comprehensive analysis of the lipid profile of a cell or organism, is a subgroup within the field of metabolomics that has quickly become a separate discipline. Thus, lipids are now getting the attention they deserve.

Lipids are hydrophobic, i.e. not water-soluble, biomolecules containing hydrocarbons. They play an important role in metabolic regulation: at the cellular level all the way to energy management and communication between the cells and organs of an organism. Lipids include, for example, oils and fats, fat-soluble vitamins, hormones, or even waxes.

It is known that changes in lipid structure, function and/or composition can trigger and influence diseases such as metabolic disorders (e.g. diabetes), cancer and cardiovascular diseases. To detect and interpret these changes, a solution is needed for [analysis at the molecular level](#). This analysis poses a major challenge to scientists. Different techniques from the fields of analytical chemistry, robotics and bioinformatics are applied for detailed identification and quantification of hundreds of lipids in one sample (lipidome).

This is where **Lipotype Shotgun Lipidomics** comes in: with the help of their [detailed analysis of the entire lipid profile](#), researchers from various disciplines gain better insight into the effect of lipids on different processes and parts of a biological system. The mass spectrometry-based technology allows for the identification of [57 different lipid classes](#) – in total [more than 3100 different lipids](#) from many sample types. This enables scientists in biotechnology, pharma, the food industry, cosmetics, and academic research to achieve their scientific goals using reproducible, quantitative lipidomics data.

Lipidomics makes it possible, for example, to identify unknown [disease biomarkers](#), to monitor [lipid-related diseases](#), to assist [claim support studies](#), and to develop [new pharmacological therapeutics](#) on the way to personalized medicine. Success has already been achieved, for example, in biomarkers for diabetes, research into new therapeutic approaches for neurodegenerative diseases or the prediction of obesity and cardiovascular diseases.

Management

Prof. Dr. Kai Simons

Founder and Chief Executive Officer (CEO)



» Lipid analysis can make the difference between research and groundbreaking research.«

Kai Simons received his MD degree from the **University of Helsinki**, conducted post-doctoral research at **Rockefeller University**, and rejoined his alma mater as Principal Investigator in 1967. In 1975, he moved to the **European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany**, to start the Cell Biology Program, which became the focal point for molecular cell biology in Europe. After the turn of the millennium, Kai Simons moved to Dresden to build up the new **Max Planck Institute for Molecular Cell Biology and Genetics**. This Institute is today an internationally recognized center in its area of research.

His recent research has focused on cell membrane organization and function. He has pioneered the concept of lipid rafts as a membrane organizing principle, based on the phase-separating capabilities of sphingolipids and cholesterol in cell membranes.

For his contributions to cell biology, Kai has received numerous accolades, including lecturers from esteemed scientific societies and internationally renowned academic institutions, Doctor Honoris Causa and Honorary Professorships at multiple universities, and received diverse awards including, for instance, the Robert Koch Gold Medal, the Anders Jahre Prize, the Albert Wander Prize, the Schleiden Medal and the Runeberg Prize, and the Order of Merit of the Free State of Saxony. Kai Simons is a foreign member of the **National Academy of Sciences, USA** and the **German National Academy of Sciences Leopoldina**. He was the President of the European Life Scientist Organization, and co-director of the **Shanghai Institute for Advanced Studies** of the Chinese Academy of Science.

His biotech experience includes co-founding the Biotech-Start-up **Jado Technologies** and membership in the scientific advisory boards of **Biogen** and **Sanofi**. With **Lipotype**, Kai Simons is now focusing on translating lipidomics and lipid analysis to clinical and industrial applications.

Dr. Oliver Uecke

Chief Operating Officer (COO)

Dr. Oliver Uecke holds an MBA and did his PhD in the field of technology transfer, entrepreneurship, and innovation management. As Chief Operating Officer, Oliver is responsible for business operations at Lipotype with a primary focus on business development, marketing & sales, and finances.



Dr. Christian Klose

Chief Technology Officer (CTO)

After receiving his PhD on membrane biology and biophysics, Dr. Christian Klose did a post-doc on mass spectrometry-based lipidomics. In his role as CTO, Christian focusses on the development of novel shotgun lipidomics technology and is responsible for product development and regulatory affairs.

