

Lipotype Shotgun Lipidomics

Get lipidomes with ultra-broad coverage and utmost quality in full high-throughput mode with Lipotype. We offer comprehensive, quantitative lipid analysis services of clinical and biological samples to a wide range of customers and various applications including pharmaceutical and biotechnology companies, food and cosmetic industry, as well as academic researchers.

Customers and applications



Biotech and pharma industry, clinical research:

Drug discovery (mode-of-action, target validation, effect on lipid metabolism), biomarker identification (pharmacodynamic, pharmacokinetic, CDx), clinical screening, diagnostics.



Food industry:

Development of functional food/nutraceuticals, intervention studies, lipid composition of food products.



Cosmetics and Dermatology:

Claim support, drug development and validation, personalized cosmetics.



Academic research:

Lipid analysis of cells, tissues and body fluids from various model organisms in a plethora of experimental setups.

Ultra-broad coverage

The Lipotype Shotgun Lipidomics Technology provides a broad coverage of membrane, but also of storage lipids. Our analysis routinely covers 30 different lipid classes (e.g. TAG or PC) on the level of lipid species (e.g. TAG 54:0) or subspecies (e.g. PC 18:0_16:0, including the fatty acid information) – in total more than 2300 individual lipids in total.

Lipid classes covered by Lipotype services

PA – phosphatidate	CE – cholesteryl ester*	PC O- – ether-linked PC*
PC – phosphatidylcholine	EE – ergosteryl ester**	PE O- – ether-linked PE*
PE – phosphatidylethanolamine	LPA – lyso-phosphatidate	LPC O- – ether-linked LPC*
PG – phosphatidylglycerol	LPC – lyso-phosphatidylcholine	LPE O- – ether-linked LPE*
PI – phosphatidylinositol	LPE – lyso-phosphatidylethanolamine	CER – ceramide
PS – phosphatidylserine	LPG – lyso-phosphatidylglycerol	HEXCER – hexosylceramide*
DAG – diacylglycerol	LPI – lyso-phosphatidylinositol	IPC – inositolphosphorylceramide**
TAG – triacylglycerol	LPS – lyso-phosphatidylserine	MIPC – mannosyl-inositol phosphorylceramide**
SM – sphingomyelin*	CL – cardiolipin	M(IP) ₂ C – mannosyl-di- (inositolphosphoryl)ceramide**
Cholesterol*	CDP-DAG – CDP-diacylglycerol**	
Ergosterol**		

* – animal samples; ** – yeast samples

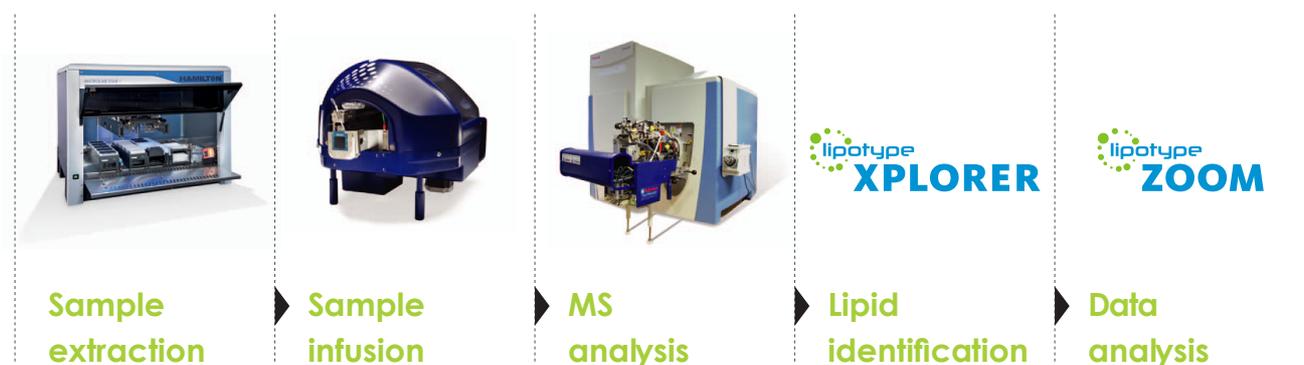
Absolute quantification

The quantification is achieved using lipid class-specific internal standards that allow for unbiased and direct quantitation of individual lipids directly from their mass spectra intensities. Therefore, we deliver results expressed in absolute and not in relative values, which provides the basis for a direct comparison of different samples and experiments.

Full high-throughput

Lipotype uses Shotgun Lipidomics Technology without time-consuming chromatographic separation of lipids before analysis. We utilize the advantages of cutting-edge mass spectrometry, combined with automated sample extraction, processing and data analysis. In this way, our exquisitely standardized technology allows for the analysis of hundreds of samples per day, offering unprecedented delivery time of weeks instead months for complete results and associated reports.

The Lipotype Shotgun Lipidomics workflow



Various sample types

The Lipotype Shotgun Lipidomics Technology allows for the analysis of multiple sample types – from organelles, bacteria, yeast and other microorganisms, cultured cells and blood plasma to tissues and organs: muscles, liver, brain, and many others. The crucial point: while our technology supports a wide range of sample types it requires only minimal amounts of sample per analysis, e.g. 15 µl or less of blood plasma.

Highest quality

Lipotype Shotgun Lipidomics Technology is highly reproducible¹, robust and reliable. This performance is ensured by a rigorous quality control system. The high standards of Lipotype operations are based on years of research experience on lipids and lipidomics technology. This is reflected in numerous scientific publications from different fields, as well as in industry-oriented applications and patents.

¹ Michal A. Surma, Ronny Herzog, Andrej Vasilj, Christian Klose, Nicolas Christinat, Delphine Morin-Rivron, Kai Simons, Mojgan Masoodi, and Julio L Sampaio: "An Automated Shotgun Lipidomics Platform for High Throughput, Comprehensive, and Quantitative Analysis of Blood Plasma Intact Lipids." 2015, *European Journal of Lipid Science and Technology* (doi:10.1002/ejlt.201500145)

Innovative lipid identification: LipotypeXplorer

Lipotype uses proprietary software for lipid identification: LipotypeXplorer. With the molecular fragmentation query language (MFQL) it identifies lipids with high precision and without bias. LipotypeXplorer does not rely on predefined databases, which have to be curated and maintained and which might not be complete.

New level of data analysis

Lipidomes have an inherent structure (e.g. lipid classes and fatty acid saturation) that is accessed by multiple layers of dynamic aggregation. With LipotypeZoom your data can be viewed and downloaded in graphs, heat maps and principle component analysis plots. Moreover, our advanced statistical reports supply you with customized cohort comparisons, correlation and pathway enrichment analyses. We empower you to interpret your data to always be one step ahead.

Personal approach

We are scientists too, and we know that with each experiment new queries pop up. And as we are experts in membrane and lipid biology and chemistry, mass spectrometry, and bioinformatics originating from the world-renowned Max Planck Institute of Molecular Cell Biology and Genetics in Dresden, Germany, you can benefit from our experience in lipidomics and cell biology as well as bioinformatics by means of personal consultations from sample preparation to interpretation of results.

Reasonable prices

Lipotype Shotgun Lipidomics is a high-throughput lipid analysis. The decreased processing time and increased sample numbers together with small samples amounts required for an analysis, turn into a cost advantage for you. We want you to profit from our innovation by offering reasonable prices that make lipidomics an affordable tool in your research projects.

Contact:

Dr. Oliver Uecke
T: +49 (0) 351 79653-45
sales@lipotype.com

Lipotype GmbH
Tatzberg 47, 01307 Dresden, Germany
www.lipotype.com

Join the
**lipid
revolution** !