

Lipotype Skin Lipidomics



Get skin lipidomes with ultra-broad coverage and the utmost quality in the full high-throughput mode with Lipotype. We offer comprehensive, quantitative lipid analysis services of clinical and biological skin samples, including samples collected with tape-stripping, for a wide range of applications such as for cosmetic claim support, topical drug development, efficacy testing for dermatological pharmacology and the cosmetic industry, as well as for academic researchers.

Customers and applications



Dermatological pharmacology and cosmetics:

Cosmetic claim support, drug development, efficacy testing

Ultra-broad coverage

Lipotype Shotgun Skin Lipidomics provides a broad coverage of *stratum corneum* lipids. Our analysis routinely covers 16 individual lipid classes (including all 12 ceramide sub-classes, but also triglycerides or cholesterol esters) on the level of lipid species (e.g. TAG 54:0;0) or subspecies (e.g. AS 10:1;2/16:0;1). In skin samples with our method we typically discover and quantify 150 – 250 individual lipids.

Lipid classes covered by our method in skin samples

NdS	- non-hydroxy-dehydrosphingosine	EoS	- omegahydroxy-dehydrosphingosine
NS	- non-hydroxy-sphingosine	EOS	- omegahydroxy-sphingosine
NP	- non-hydroxy-phytosphingosine	EOP	- omegahydroxy-phytosphingosine
NH	- non-hydroxy-6-hydroxy-sphingosine	EOH	- omegahydroxy-6-hydroxy-sphingosine
AdS	- alphahydroxy-dehydrosphingosine	TAG	- triacylglycerol
AS	- alphahydroxy-sphingosine	DAG	- diacylglycerol
AP	- alphahydroxy-phytosphingosine	CE	- cholesteryl ester
AH	- alphahydroxy-6-hydroxysphingosine	Cholesterol	

Easy sampling

Our method is compatible with the easiest and the most convenient for subjects skin sampling method – tape stripping. It is an almost non-invasive method with the benefits of controlling the sampling depth (by collecting the appropriate stratum corneum layer) and collecting comparable sample amounts. This enables collecting a high number of samples and allows screening and biomarker studies, increasing much needed statistical validity of results and conclusions.

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 platform allows the complete analysis of 200 skin samples per day, offering unprecedented delivery time of weeks, instead of months, for complete results and associated reports.

Absolute quantification

The quantification is achieved using lipid class-specific internal standards allowing 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.

Highest quality

Lipotype Shotgun Lipidomics Technology is highly reproducible, with the median coefficient of variation for quantified lipids 7.4% and 86% of all lipids having their CV lower than 15%. This performance is ensured by rigorous quality control. The high standards of Lipotype operations are based on years of research experience on the role of lipids in cellular processes and on the development of lipidomics technology.

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