Untargeted Lipidomics Service

Untargeted lipidomics research is based on LC-MS/MS technology for broad spectrum analysis of lipids in biological samples. With high-resolution mass spectrometry, it maximizes the analysis of changes in lipid composition and expression in various biological processes.
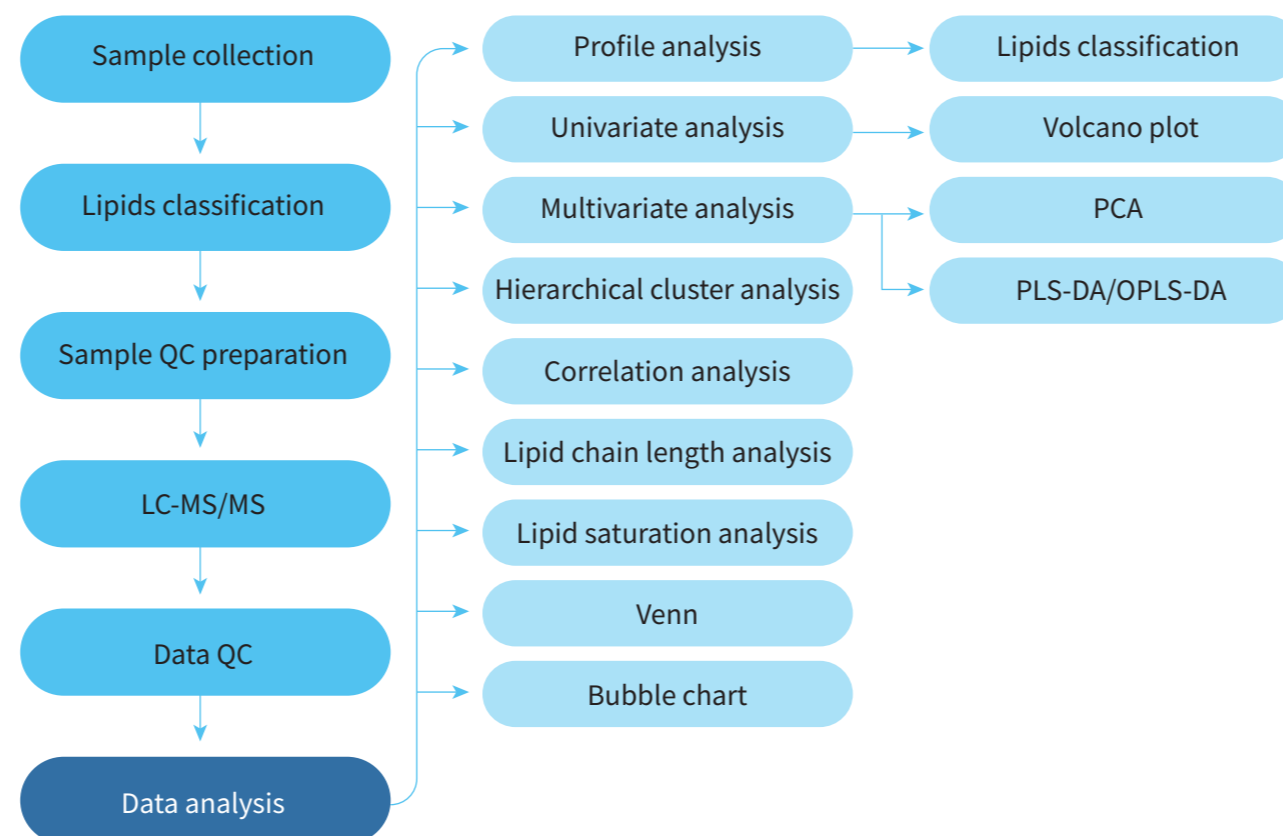
INOMIXO is a leading omics service provider with decades of experience in the field of metabolomics. Based on the advanced analytics platform, we have established the untargeted lipidomics platform to provide high-quality lipidomics solutions for researchers worldwide.

High-resolution mass spectrometry

Matched LipidSearch™ database1.7 million lipid molecules mapping

Average 2500+ lipid molecules

Application Area

Clinical research Biomedicine Microbiology Aquaculture Alimentology Botanical

Project Workflow

Sample collection → Lipids classification → Sample QC preparation → LC-MS/MS → Data QC → Data analysis

- Profile analysis → Lipids classification
- Univariate analysis → Volcano plot
- Multivariate analysis → PCA
- Hierarchical cluster analysis → PLS-DA/OPLS-DA
- Correlation analysis
- Lipid chain length analysis
- Lipid saturation analysis
- Venn
- Bubble chart

Sample Requirements

Sample type	sample	Recommended	Biological duplication
Body fluid	Seminal plasma. serum, urine, saliva, sperm, secretions……	≥200 μL	
Animal tissue	Cancer and adjacent non-tumor, brain, liver tissues……	≥200 mg	
Plant	Roots, stems, leaves	≥200 mg	Clinical ≥30 samples/group
Stool	Feces, intestinal contents	≥200 mg	Animal ≥10 samples /group
Cells	Suspension and adherent cells	≥10^7	Plant ≥6 samples /group
Bacteria	Microbes (bacterial precipitate)	≥200 mg	Cell ≥6 samples /group
Others	others	Customized	
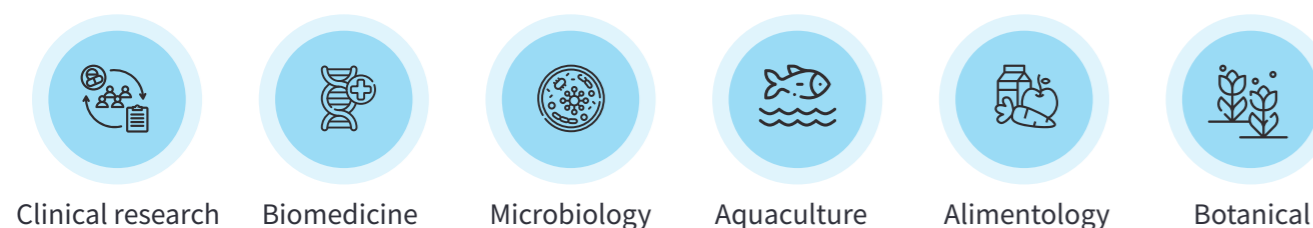
Bioinformatics Analysis Display

Bar chart

Volcano plot

OPLS-DA

Bubble chart
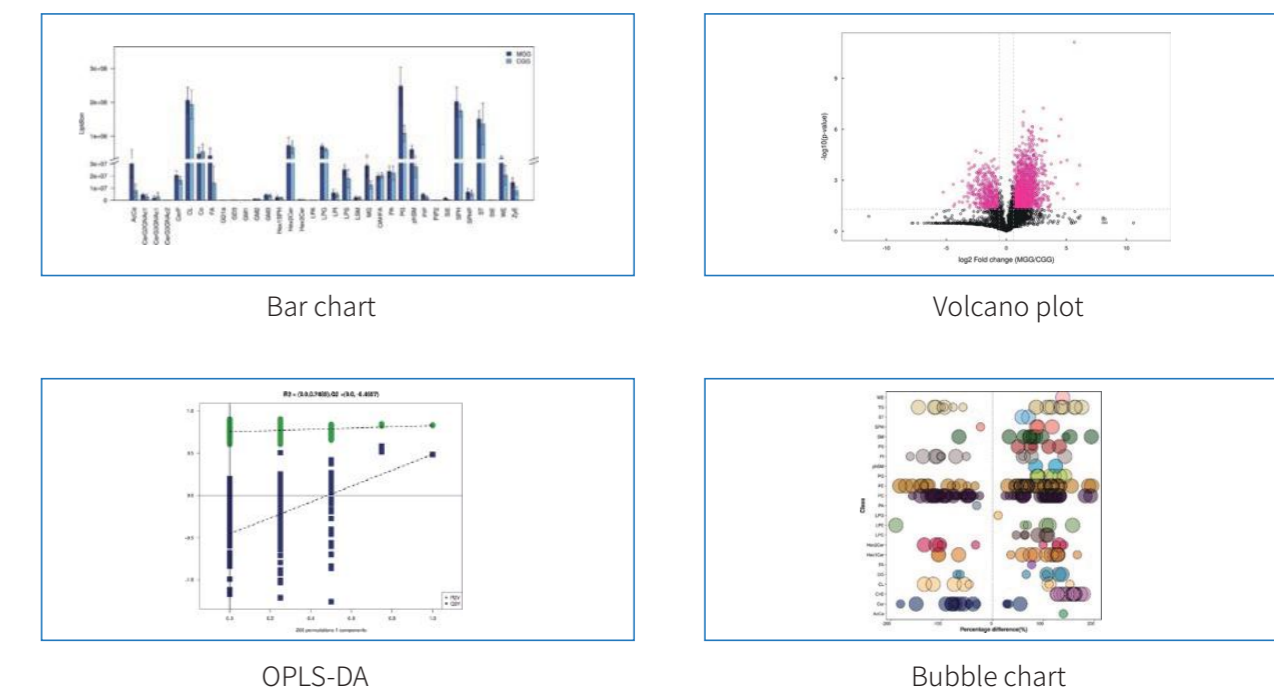
INOMIXO can provide a variety of bioinformatics and customized analysis services in addition to the charts mentioned above. For more analysis needs, please contact **info@inomixo.com**

Selected Publicatio

Year	Journal	Paper
2023	Signal Transduction and Target Therapy	FBXW7β loss-of-function enhances FASN-mediated lipogenesis and promotes colorectal cancer growth
2023	Brain, Behavior, and Immunity	ACSL4 promotes microglia-mediated neuroinflammation by regulating lipid metabolism and VGLL4 expression
2023	Journal of Experimental & Clinical Cancer Research	TRIM21 attenuates renal carcinoma lipogenesis and malignancy by regulating SREBF1 protein stability
2022	Signal Transduction and Target Therapy	Thrombin induces ACSL4-dependent ferroptosis during cerebral ischemia/reperfusion
2021	Cell Research	Degradation of lipid droplets by chimeric autophagy-tethering compounds

Categories of Lipids

Class I	Class II
Fatty Acyls, FA	Fatty acid, (O-acyl)-1-hydroxy fatty acid......
Glycerolipids, GL	Monoglyceride, Diglyceride, Triglyceride, Deuterated diglyceride, Deuterated triglyceride......
Glycerophospholipids, GP	Lyso-phosphatidylcholine, Lyso-phosphatidylethanolamine, Lyso-phosphatidylinositol, Lyso-phosphatidylglycerol, Lyso-phosphatidylserine, Lyso-phosphatidic acid, Lyso-phosphatidylethanol, Lyso-phosphatidylmethanol, Lyso-dimethylphosphatidylethanolamine, Phosphatidylcholine, Phosphatidylethanolamine, Phosphatidylinositol, Phosphatidylglycerol, Phosphatidylserine, Phosphatidic acid, Platelet-activating factor, Phosphatidylethanol, Phosphatidylmethanol, Cyclic phosphatidic acid, Dimethylphosphatidylethanolamine, Cardiolipin......
Sphingolipids, SP	Sphingomyelin, Lysosphingomyelin, Sphingomyelin (phytosphingosine), Sphingoshine, Sphingoshine phosphate, Ceramides, Ceramides phosphate, Gangliosides, GM1, GM2, GM3, GD1a, GD1b, GD2, GD3, GT1a, GT1b, GT1c, GT2, GT3, GQ1b, GQ1c......
Sterol Lipids, ST	Cholesteryl Ester, Cholesterylesters, Zymosteryl, Stigmasteryl ester, Sitosteryl ester, Deuterated Cholesteryl Ester......
Prenol Lipids, PR	Coenzyme, Co......
Glucosylsphingoshine, SoG1	Monogylcosylceramide, Diglycosylceramide, Triglycosyl-ceramide, Simple Glc series, CerG2GNAc1, CerG2GNAc2, CerG2GNAc3, Monogalactosylmonoacylglycerol, Monogalactosyldiacylglycerol, Digalactosylmonoacylglycerol, Digalactosyldiacylglycerol, Sulfoquinovosylmonoacylglycerol, Sulfoquinovosyldiacylglycerol......
Polyketides, PK	Antibiotic, Mycotoxins, NaturalPigments......

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