

LIPID INSIGHT LIPIDOMICS & METABOLOMICS PANELS

All packaged services provided by Lipid Insight Inc. includes the following:

- 30min consultation
- Sample extraction
- Quantitative and/or qualitative analysis (lipidomics or metabolomics depending on assay type)
- Final report (includes raw data, identification, some measure of quantitation, quantitative visualization based on data structure or grouping provided)

Price starts are 200\$ per sample (internal) and 300\$ per sample (external).

A. LIPIDOMICS PANELS

FATTY ACID PROFILING

Name	Comprehensive Fatty Acid Profiling	Proximal Lipid Analysis	Active Microbial Lipidomics
Analyte Coverage	Essential Fatty Acids & PUFA - LA - LN - DHA - EPA - ARA - DPA - Stearidonic acid Saturated & Unsaturated Fatty Acids - Short chain fatty acids - Long chain fatty acids - Free fatty acids Functional & Rare Fatty Lipids - Conjugated fatty acids (CLA isomers) - Fatty alcohols - Hydrocarbons - Squalene	- Total lipids / fat content - Total triglycerides - Total phospholipids - Total omega-3 - Total PUFA - Total saturates - Total MUFA - Total omega-6 - Total galactolipids - Total sterols	- hydroxy fatty acids - bacterial fatty acids - PLFAs - phospholipids / DG ratio - plasmalogen / PLFA - CL / PG ratio - PG / PLFA ratio - Trans / cis monoenoic PLFA - Plasmalogens / PLFA - Sterols

COMPLEX LIPIDOMICS PANELS

Name	Complex Lipid Assay	Premium Complex Lipid Assay
Analyte Coverage	Phospholipids - PE	Glycerophospholipids (modified / Ether / Acylated forms)

	- PC - PS - PI - PG - PA Lyso-lipids - lyso phospholipids - Lysogalactolipids Sphingolipids - SM - Ceramides Galactolipids - MGDG - DGDG - SQDG Glycerolipids (Neutral lipids) - DAG - MAG - TG Betainelipids Sterol Esters & Waxes - CE Wax esters	- Plasmalogens (Ether PC or PE) - Ether lipids - Acylated PG - Monomethylated PE - Dimethylated PE - Lyso plasmalogens PC or PE - Stereoisomers of PLs Glycerolipids - Medium chain TG - Short chain TG - Monoacetyldiacylglycerols (MADAGs) - 1,2 or 1,3 DG isomers Bioactive & Specialized Lipids - FAHFA Sterols - campesterol - sitosterols - betasitosterols, etc.
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TARGETED LIPIDOMICS PANELS

Name	Terpene Panel	Phenolic Acid Panel	Vitamins Panel (fat & water soluble)
Analyte Coverage	- Monoterpenes - Sesquiterpenes - diterpenes	- Caffeic acid - ferulic acid - gallic acid - chlorogenic acid	- Vitamins A, B-complex, D, E, K

Name	Carotenoid Panel	Heterocyclic Amine (HCAs) Panel	Acylcarnitines Panel
Analyte Coverage	- Lutein - beta-carotene - zeaxanthin - lycopene	- IQ - IQx - MeIQx - PhIP - DiMeIQx - other meat-derived HCAs	- Short- - medium- - long-chain acylcarnitines

Name	Plant Lipid Panel	Food Lipid Panel	Oxylipins / Oxidized Lipids & Aldehydes Panel
Analyte Coverage	Galactolipids - MGDG - DGDG - SQDG Phytosterols - β-Sitosterol, Stigmasterol, Campesterol Fatty acids - C16-C22 saturated & unsaturated FA - Alpha-linolenic acid, linoleic acid, palmitic oleic Phospholipids - PC, PE, PG, PI, PS, PA Sphingolipids Ceramides	- Triacylglycerols (TAGs) - Diacylglycerols (DAGs) - Monoacylglycerols (MAGs) - Omega-3/6/9 fatty acids - Medium-chain triglycerides (MCTs) - Conjugated linoleic acids (CLAs) - Other dietary fatty acids	- Oxylipins - reactive aldehydes - lipid peroxidation products

UNTARGETED LIPIDOMICS

Name	Environmental Stress Lipidomics	Clinical Lipidomics	Neurolipidomics
Analyte Coverage	Membrane lipidomics - - Phospholipids (PC, PE, PG, PS, PA) - Lyso phospholipids (LPC, LPE) - Oxidized phospholipids Soil microbial phospholipids - PLFAs - Short chain fatty acids Fatty acids C14-C24 fatty acids	Structural & Membrane Lipids - Phospholipids (PC, PE, PI, PS, PG, PA) - Sphingolipids - Plasmalogens - Ceramides Neutral Lipids - TG - DG - MG Acyl-Linked Metabolites - Acylcarnitines - Acyl-CoAs Free Fatty Acids - Short-chain fatty acids (SCFAs)	Carnitine & Acyl-Linked Lipids - Carnitines - Acylcarnitines - Acyl-CoAs Phospholipids - Plasmalogens (ether-linked phospholipids) - Ester-linked (PC, PE, PG, PS, PI) - Lysophospholipids (Lyso-PC, Lyso-PE, etc.) Sphingolipids - Ceramides - Gangliosides

		- Long-, Medium-, and short-chain fatty acids - Omega-3 (EPA, DHA) - Omega-6 (ARA, LA) - Omega-7, Omega-9 Bioactive Lipid Mediators - Bile acids (primary & secondary) - Oxylipins / eicosanoids Vitamins - Fat-soluble (A, D, E, K) - Water-soluble (B complex, C)	- Sphingomyelins Neutral / storage lipids - TG - DG - MG - Sterols
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LIPIDOMIC DETECTION IMAGING TOOLS

DESI-MS Imaging	1. Phospholipids 2. Triglycerols 3. Spingolipids 4. Galactolipids
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B. METABOLOMICS PANELS

TARGETED METABOLOMICS PANELS

Name	Vitamins (fat & water soluble)	Volatile Fatty Molecules	Soluble Small Molecules
Analyte Coverage	Vitamins A, B-complex, C, D, E, K	- Esters - Aldehydes - Alcohols - Ketones - free fatty acids - Tryptophan and derivatives - Dietary fatty acid	- Oxylipins - Phenolic acids - Carbohydrates/carotenoids - anthocyanins

Name	Amino Acids Panel (60 in total)			
Analyte Coverage				
	Proteinogenic	Methylated / Phosphorylated	Precursors / Intermediates	Non-proteinogenic / Modified
	Glycine	N,N-Dimethylglycine	Glycinamide	Sarcosine

	L-Alanine	N,N-Dimethyl-L-Valine	DL-Homocysteine thiolactone	trans-4-L-Hydroxyproline
	L-Serine	Phosphoserine	L-Homocysteine	L-Isoglutamine
	L-Proline	O-Phospho-L-tyrosine	DL-Homocysteine	L-Cysteic acid
	L-Valine	S-Methyl-L-cysteine	N-Formyl-L-methionine	L-Citrulline
	L-Threonine	N-Methyl-D-aspartic acid	Tryptophanamide	L-Homoarginine
	L-Cysteine	S-Methyl-L-cysteine sulfoxide	Ureidosuccinic acid	L-Homocitrulline
	L-Leucine	N-Epsilon-acetyl-L-lysine	L-Homocysteine	N-Carbamyl-L-Glutamic Acid
	L-Asparagine			3-chloro-L-tyrosine
	L-Aspartic acid			3-Nitro-L-tyrosine
	L-Lysine			2-Aminoisobutyric acid
	L-Glutamic acid			β -Alanine
	L-Methionine			1-Aminocyclopropanecarboxylic acid
	L-Histidine			L- α -Aminobutyric acid
	L-Phenylalanine			L-Norvaline
	L-Arginine			Taurine
	L-Tyrosine			L-Ornithine
	L-Tryptophan			L-Theanine
	L-Isoleucine			Carbocysteine
	L-Glutamine			DL-m-Tyrosine
				Selenomethionine
				L-Dopa
				L-5-Hydroxytryptophan
				L-Cystine

APPLICATION SPECIFIC PANELS

Name	Neurometabolomics Panel	Microbial Metabolomics Panel	Environmental Metabolomics Panel
Analyte Coverage	- Neurolipids - Tryptophan derivatives - Neurotransmitters	Microbial based natural products screening	- Volatiles molecules - Soluble small molecules

Name	Foodomics / Food Metabolomics Panel	Nootropic Metabolite Panel	Plant Metabolomics Panel
Analyte Coverage	- SCFA - Vitamins - Dietary fatty acid	- Phenolic acids - Functional lipids - Carotenoids	- Flavonoids - Phenolics acids - Plant hormones

	- Polar lipids - Storage lipids - Plant lipids - Phytosterols - Amino acids - Volatilome/volatiles - Total protein - Antioxidants - Total phenolics - Phenolic acids - Carotenoids - Flavonoids - Sugars / Carbohydrates - pH - Total oxidation	- Anthocyanins - Flavonoids - Neurotransmitters	- Plant lipids - Anthocyanins - Terpenes - Carotenoids - Amino acids - Plant chloroplast lipids - Fatty alcohols - Ketones - Aldehydes - Esters
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