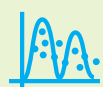


Fatty acids



Deliverables

This pre-validated panel includes up to 40 fatty acids (free, total or both) and allows delivery of **fully quantitative results** (expressed in pmol). In addition, the amount of each sample used is provided (weight or volume). Simultaneous measurement of 26 fatty acids with chain length C12–C24 with even number of carbon atoms is possible in a standard package; premium package includes full list of 40 fatty acids with chain length C8–C24, uneven and trans fatty acids.



Method

Fatty acids are analysed by **LC/ESI-MS/MS** with an Agilent 1290 HPLC system combined with an Agilent 6495 Triplequad mass spectrometer (Agilent Technologies, Santa Clara, USA). Samples are extracted with organic solvents. For the analysis of total fatty acids alkaline hydrolysis is performed. For lipid quantification, deuterated internal standards are added prior to sample extraction. Crude extracts are further purified by solid phase extraction (SPE). Clean extracts are loaded on the LC system for LC/ESI-MS/MS analysis. Mass spectrometry analysis is performed with multiple reaction monitoring (MRM) in negative ion mode with at least two mass transitions for each compound. Data analysis is done using Mass Hunter software (Agilent Technologies).



Sample submission guidelines

SAMPLE TYPE	SAMPLE AMOUNT	SHIPMENT CONDITIONS
Whole blood, plasma, serum	50 µl	<i>Frozen, on dry ice</i>
Tissue	20 mg	<i>Frozen pieces of tissues, on dry ice</i>
Feces	20 mg	<i>Frozen, on dry ice</i>
Cells	1 × 10 ⁶ cells or 150 µg of total protein	<i>Frozen cell pellet, on dry ice</i>
Liquids (e.g., cell supernatant, media)	0.5–20 ml	<i>Frozen, on dry ice</i>

Minimal sample number: 10

Standard turnaround time: 6 weeks

(for projects with up to 100 samples)

Expedited delivery is possible for an additional fee.

Applications

- > Cancer
- > Diabetes
- > Obesity
- > Nutrition
- > Neuronal disorders

Covered analytes

STANDARD PACKAGE

ANALYTE	FATTY ACID	LLOQ* [ng]
Lauric Acid	C12:0	10
Myristic Acid	C14:0	10
Myristoleic Acid	C14:1 n-5	10
Palmitic Acid	C16:0	10
Palmitoleic Acid	C16:1 n-7	10
Stearic Acid	C18:0	10
Oleic Acid	C18:1 c	10
Linoleic Acid	C18:2 c	10
Alpha-Linolenic Acid	C18:3 α	10
Gamma-Linolenic Acid	C18:3 γ	10
Stearidonic Acid	C18:4	10
Arachidic Acid	C20:0	10
Gondoic acid/Cis-11-Eicosaenoic Acid	C20:1 n-9	10
Cis-11,14-Eicosadienoic Acid	C20:2 n-6	10
DGLA (Dihomo-γ-linolenic Acid)	C20:3	10
Arachidonic Acid	C20:4 n-6	10
Eicosapentaenoic Acid	C20:5 n-3	10
Behenic Acid	C22:0	10
Erucic Acid	C22:1 n-9	10
Docosadienoic Acid	C22:2 n-6	10
Adrenic Acid	C22:4 n-6	10
Docosapentaenoic Acid	C22:5 n-3	10
Osbond Acid	C22:5 n-6	10
Docosahexaenoic Acid	C22:6 n-3	10
Lignoceric Acid	C24:0	10
Nervonic Acid	C24:1 n-9	10

PREMIUM PACKAGE

ANALYTE	FATTY ACID	LLOQ [ng]
Caprylic acid	C8:0	10
Capric acid	C10:0	10
Undecylic acid	C11:0	10
Lauric Acid	C12:0	10
Tridecylic acid	C13:0	10
Myristic Acid	C14:0	10

ANALYTE	FATTY ACID	LLOQ [ng]
Myristoleic Acid	C14:1 n-5	10
Pentadecanoic Acid	C15:0	10
Pentadecenoic Acid	C15:1	10
Palmitic Acid	C16:0	10
Palmitoleic Acid	C16:1 n-7	10
Sapienic Acid	C16:1 n-10	10
Margaric Acid	C17:0	10
Heptadecenoic Acid	C17:1	10
Stearic Acid	C18:0	10
Oleic Acid	C18:1 c	10
Elaidic Acid	C18:1 t	10
Linoleic Acid	C18:2 c	10
Linolelaidic acid	C18:2 t	10
Alpha-Linolenic Acid	C18:3 α	10
Gamma-Linolenic Acid	C18:3 γ	10
Stearidonic Acid	C18:4	10
Arachidic Acid	C20:0	10
Cis-11-Eicosaenoic Acid	C20:1 n-9	10
Cis-11,14-Eicosadienoic Acid	C20:2 n-6	10
DGLA (Dihomo-γ-linolenic Acid)	C20:3	10
Eicosatetraenoic Acid	C20:4 n-3	10
Arachidonic Acid	C20:4 n-6	10
Eicosapentaenoic Acid	C20:5 n-3	10
Heneicosylic acid	C21:0	10
Behenic Acid	C22:0	10
Erucic Acid	C22:1 n-9	10
Docosadienoic Acid	C22:2 n-6	10
Adrenic Acid	C22:4 n-6	10
Docosapentaenoic Acid	C22:5 n-3	10
Osbond Acid	C22:5 n-6	10
Docosahexaenoic Acid	C22:6 n-3	10
Tricosylic acid	C23:0	10
Lignoceric Acid	C24:0	10
Nervonic Acid	C24:1 n-9	10

* lower limit of quantification

For enquiries, please contact:

Lipotype GmbH | Tatzberg 47 | 01307 Dresden | Germany
 Lipotype Inc. | 1 Broadway, 14th floor | Cambridge, MA 02142 | United States
 sales@lipotype.com



www.lipotype.com

