



Free Fatty Acid Panel



Free Fatty Acids

Fatty acids play many physiologically important roles in an organism. They are not only key metabolites of energy storage and production but also the basic building blocks of complex lipids that form cellular membranes. A variety of bioactive forms of fatty acid metabolites, known as lipid mediators, act as local hormones and are involved in many physiological systems and pathological processes. Free fatty acids (FFA, non-esterified fatty acids, NEFA) are the non-bound fraction of the total fatty acid pool. The determination of FFAs in plasma (or serum) is of clinical relevance as the association between FFAs and many diseases is well-known (e. g. insulin resistance/type 2 diabetes, hypertension, cardiovascular disease).

Applications

The assay measures seven individual fatty acid that comprise about 90% of the free fatty acid fraction in human plasma (or serum) and 85% in adipose tissue. The panel can be useful in the field of nutritional research, drug development and clinical diagnostic research, covering a variety of disorders:

- ▶ Obesity
- ▶ Cardiovascular disease
- ▶ Diabetes
- ▶ Hypertension

FFA Panel	LLOQ*	
	Serum/ Plasma	Tissue
Palmitic Acid	2.50 ug/mL	18.8 ug/g
Palmitoleic Acid	0.250 ug/mL	1.88 ug/g
Margaric Acid	0.0625 ug/mL	0.469 ug/g
Stearic Acid	0.500 ug/mL	3.75 ug/g
Oleic Acid	2.50 ug/mL	18.8 ug/g
Linoleic Acid	2.50 ug/mL	18.8 ug/g
Linolenic Acid	0.250 ug/mL	1.88 ug/g

*Lower Limit of Quantitation (LLOQ) varies for each sample type

The panel is for non-GxP testing and is not for diagnostic use

Analysis Method and Instrumentation

LC-MS/MS (Agilent 1290 UHPLC/Sciex QTrap 5500)

Sample Type and Required Amounts

Sample Type	Sample Requirement
Plasma/Serum	100 - 150 µL
Tissue	50 - 100 mg
Others on request	

Contact us to get started
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