

TEST STATUS - NEW TEST

Notification Date: 2/26/2025

Effective Date: 3/5/2025

Test Name: Fatty Acids Profile, Essential Serum or Plasma

Test ID: LAB6787

Explanation: This test is a new EPIC orderable for Fatty Acids Profile, Essential Serum or Plasma testing sent to ARUP. This orderable should also take the place of Fatty Acid Profile testing sent to other vendors.

Useful For: This test aids in the identification of patients with essential fatty acid deficiency, evaluation of nutritional status, and diet monitoring. This test must be obtained following overnight fast (12-14 hours) and in the absence of alcohol consumption (within 24 hours).

Methodology: Gas Chromatography-Mass Spectrometry (GC-MS)

Specimen Requirements:

Specimen Type:	Plasma or Serum
Alternate Specimen:	N/A
Container/Tube:	Plasma: Green (heparin) or Lavender (EDTA); Serum: Red or Gold gel separator tube
Specimen Preparation:	Separate from cells ASAP or within 45 minutes of draw. Transfer 0.5 mL serum to an aliquot transport tube and freeze immediately.
Specimen Volume:	0.5 mL (minimum 0.15 mL)
Pediatric Collection:	Same as above
Storage/Transport Temperature:	Frozen

Specimen Stability Information:

Specimen Type	Temperature	Time
Plasma or Serum	Ambient	48 hours
Plasma or Serum	Refrigerated	1 week
Plasma or Serum	Frozen	3 months

Reference Interval:

Fatty Acids	Reference Interval (nmol/mL)
Arachidic Acid, C20:0	8-43
Arachidonic acid, C20:4w6	310-1420
DHA, C22:6w3	45-365
DPA, C22:5w3	13-75
DPA, C22:5w6	6-55
DTA, C22:4w6	10-40
Docosenoic Acid, C22:1	1-10
EPA, C20:5w3	8-130
Hexadecenoic Acid, C16:1w9	14-95
Lauric Acid, C12:0	1-200
Linoleic Acid, C18:2w6	1210-4300
α -Linolenic Acid, C18:3w3	20-200
h-g-Linolenic C20:3w6	45-340
g-Linolenic Acid, C18:3w6	10-120
Mead Acid, C20:3w9	1-35
Myristic Acid, C14:0	20-520
Nervonic Acid, C24:1w9	35-145
Oleic Acid, C18:1w9	740-3900
Palmitic Acid, C16:0	1090-3840
Palmitoleic Acid, C16:1w7	35-580
Stearic Acid, C18:0	280-1250
Vaccenic Acid, C18:1w7	50-250
Total Saturated Acid	1.5-5.3 mmol/L
Total Monounsaturated Acid	0.9-4.7 mmol/L
Total Polyunsaturated Acid	2.1-6.2 mmol/L
Total w3	0.12-0.55 mmol/L
Total w6	1.8-5.7 mmol/L
Total Fatty Acids	4.5-15.0 mmol/L
Triene Tetraene Ratio	0.004-0.051

Cautions: This test does not screen for disorders of peroxisomal biogenesis/function.

Reasons for Rejection: Improper specimen type; Improper specimen collection including lack of patient identification; Insufficient sample volume; Improper specimen transport or storage; Clotted or hemolyzed specimens and specimens older than 7 days

Recommendations: See the above indications.

Vanderbilt Medical Laboratories

CPT Code(s): 82542

Days(s) Performed: Mon, Wed, Fri

Report Available: 4-10 days

Questions: Please get in touch with Vanderbilt Medical Laboratories Customer Service at 615-875-5227 (5-LABS) or 800-551-5227 or visit our website: [Home | Vanderbilt Medical Laboratories \(vumc.org\)](#)