

Patient: **SAMPLE
PATIENT**

DOB:

Sex:

MRN:

3540 Essential & Metabolic Fatty Acids - Bloodspot

Methodology: GCMS

Omega-3 Fatty Acids

Analyte	Reference Range
0.11 (cold water fish, flax, walnut)	
α-Linolenic (ALA) 18:3 n3	>= 0.28 wt %
0.14	
Eicosapentaenoic (EPA) 20:5 n3	>= 0.12 wt %
1.09	
Docosapentaenoic (DPA) 22:5 n3	>= 0.34 wt %
1.7	
Docosahexaenoic (DHA) 22:6 n3	>= 0.8 wt %
3.0	
% Omega-3s	>= 1.6

Omega-9 Fatty Acids

Analyte	Reference Range
13 (olive oil)	
Oleic 18:1 n9	14-21 wt %
3.0	
Nervonic 24:1 n9	1.1-1.8 wt %
16.6	
% Omega-9s	17.3-22.5

Saturated Fatty Acids

Analyte	Reference Range
21 (meat, dairy, coconuts, palm oils)	
Palmitic C16:0	19-27 wt %
17	
Stearic C18:0	9-12 wt %
0.23	
Arachidic C20:0	0.24-0.40 wt %
0.95	
Behenic C22:0	0.88-1.61 wt %
0.14	
Tricosanoic C23:0	0.19-0.26 wt %
2.8	
Lignoceric C24:0	1.1-1.9 wt %
0.04	
Pentadecanoic C15:0	0.14-0.30 wt %
0.23	
Margaric C17:0	0.24-0.45 wt %
42.3	
% Saturated Fats	39.8-43.6

Omega-6 Fatty Acids

Analyte	Reference Range
15.0 (vegetable oil, grains, most meats, dairy)	
Linoleic (LA) 18:2 n6	18.8-28.3 wt %
0.14	
γ-Linolenic (GLA) 18:3 n6	0.15-0.54 wt %
1.17	
Dihomo-γ-linolenic (DGLA) 20:3 n6	>= 1.02 wt %
17	
Arachidonic (AA) 20:4 n6	7-12 wt %
2.74	
Docosatetraenoic (DTA) 22:4 n6	0.45-1.25 wt %
0.39	
Eicosadienoic 20:2 n6	<= 0.26 wt %
36.4	
% Omega-6s	30.5-39.7

Monounsaturated Fatty Acids

Analyte	Reference Range
0.29	
Palmitoleic 16:1 n7	<= 2.58 wt %
1.23	
Vaccenic 18:1 n7	<= 1.65 wt %

Trans Fats

Analyte	Reference Range
0.15	
Elaidic 18:1 n9t	<= 0.59 wt %

Delta-6-Desaturase Activity

Analyte	Reference Range
12.8 Upregulated Functional Impaired	
Linoleic / DGLA 18:2 n6 / 20:3 n6	12.6-31.5

Cardiovascular Risk

Analyte	Reference Range
11.9	
Omega-6s / Omega-3s	8.5-27.4
118	
AA / EPA 20:4 n6 / 20:5 n3	10-86
4.6	
Omega-3 Index *	>= 4.0

The Essential Fatty Acid reference ranges are based on an adult population.

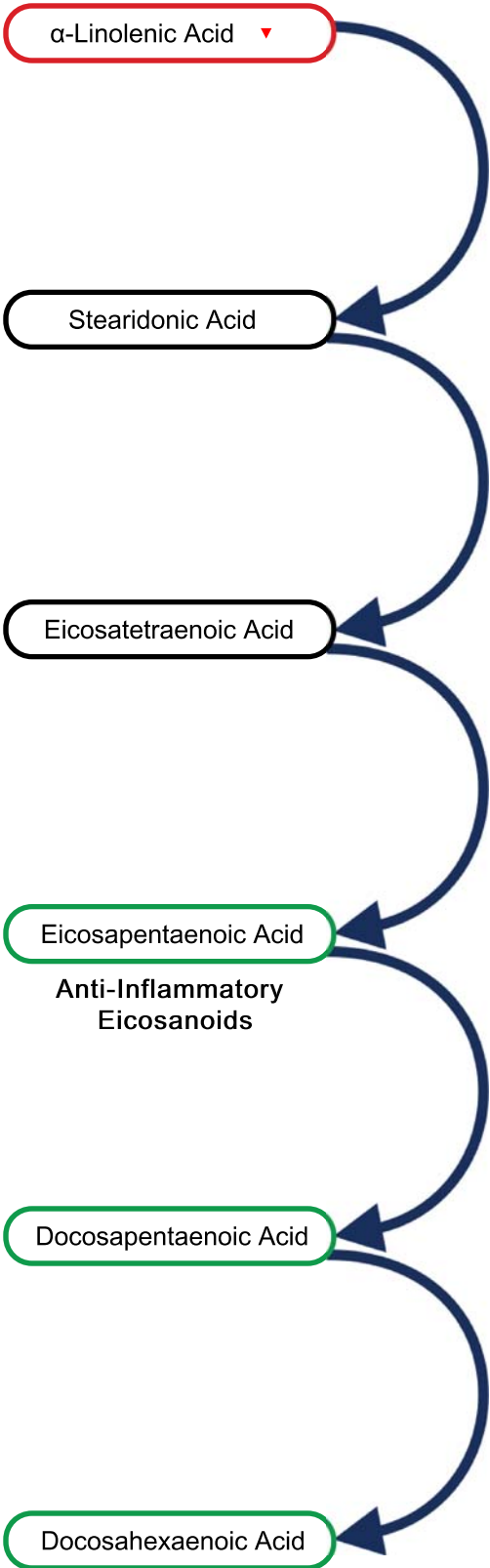
* The patient results for the Omega 3 Index have been converted to red blood cell equivalence in order to maintain applicability to the literature-based reference ranges for this marker.

Fatty Acid Metabolism

Omega-3 Metabolism

Omega-6 Metabolism

Enzyme



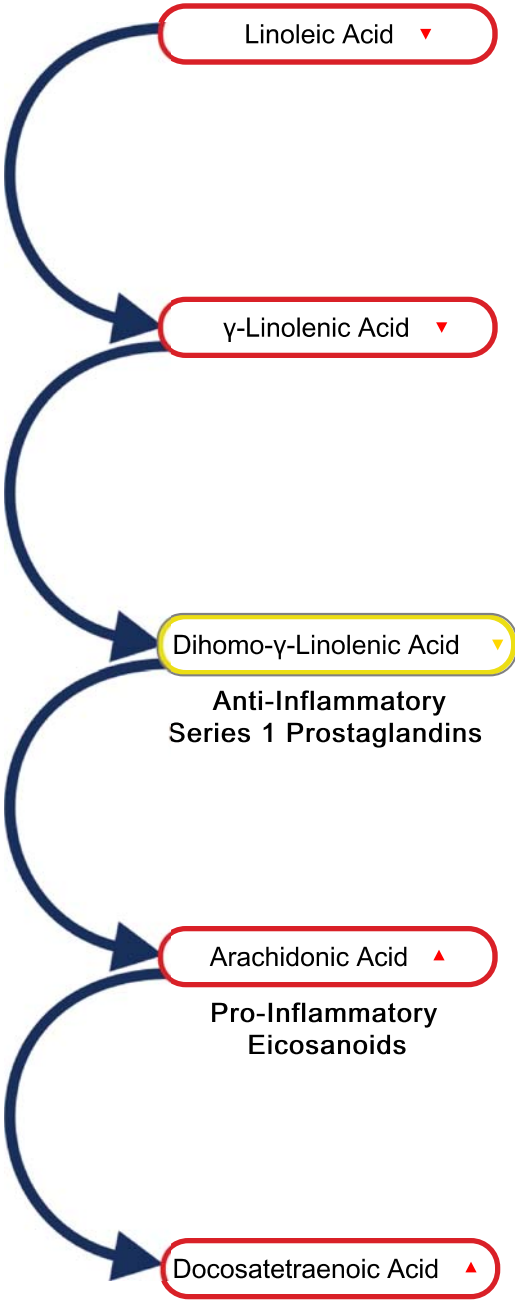
Delta-6-Desaturase
Important Regulators:
B2, B3, B6, Vitamin C,
Insulin, Zn, Mg

Elongase
Important Regulators:
B3, B5, B6, Biotin,
Vitamin C

Delta-5-Desaturase
Important Regulators:
B2, B3, B6, Vitamin C,
Insulin, Zn, Mg

Elongase
Important Regulators:
B3, B5, B6, Biotin,
Vitamin C

Elongase
Delta-6-Desaturase



Commentary

For more information regarding Essential and Metabolic Fatty Acids clinical interpretation, please refer to the Fatty Acids Support Guide at <https://www.gdx.net/core/support-guides/fatty-acid-support-guide.pdf>

This test has been developed and its performance characteristics determined by Genova Diagnostics, Inc. It has not been cleared by the U.S. Food and Drug Administration.

The **Reference Range** is a statistical interval representing 95% or 2 Standard Deviations (2 S.D.) of the reference range population. One Standard Deviation (1 S.D.) is a statistical interval representing ~68% of the reference population. Values between 1 and 2 S.D. are not necessarily abnormal. Clinical Correlation is suggested.

