

Dr.SAMPLE REPORT
TEST HEALTH CENTRE
123 TEST STREET

LAB ID : 3814185
UR NO :
Collection Date : 09-May-2022
Received Date:09-May-2022



3814185

INTEGRATIVE MEDICINE

BLOOD - EDTA

Result Range Units

RED CELL FATTY ACID PROFILE

Red Cell Fatty Acid Summary

Saturated Fats, Total	39.30	29.89 - 42.10	%	
Monounsaturated Fats, Total	27.76	15.65 - 31.82	%	
Omega 3, Total	6.05	2.57 - 15.15	%	
Omega 6, Total	26.02	24.85 - 44.15	%	
Omega 3/Omega 6 Ratio	0.2 *L	0.4 - 0.5	RATIO	
Omega 6/Omega 3 Ratio	4.3	1.9 - 14.6	RATIO	
AA/EPA ratio	3.9	1.1 - 69.2	RATIO	
OMEGA 3 INDEX	6.96		%	
Delta 6 Desaturase Activity	25.5 *H	6.0 - 12.3	RATIO	

Omega 3 Fatty Acids

alpha Linolenic Acid	0.24	0.10 - 1.90	%	
Eicosapentanoic Acid	2.17	0.14 - 6.92	%	
Docosapentanoic Acid	0.86	0.53 - 2.81	%	
Docosahexanoic Acid	2.78	1.00 - 6.50	%	
Total Omega 3 Fatty acids	6.05	2.57 - 15.15	%	

Omega 6 Fatty Acids

Linoleic Acid	15.54	14.00 - 31.30	%	
gamma Linolenic Acid	0.06	0.05 - 0.72	%	
Eicosadienoic Acid	0.17	0.10 - 0.43	%	
Dihomo-g-linolenic Acid	0.61	0.50 - 2.50	%	
Arachidonic Acid	8.45	5.00 - 14.80	%	
Docosatetraenoic Acid	0.90	0.30 - 2.50	%	
Docosapentaenoic Acid (n6)	0.29	0.08 - 0.83	%	
Total Omega 6 Fatty Acids	26.02	24.85 - 44.15	%	

Monounsaturated Fats

Palmitoleic Acid	0.53	0.13 - 2.90	%	
Oleic Acid	25.02	14.20 - 29.50	%	
Gondoic Acid	0.22	0.10 - 0.77	%	
Nervonic Acid	1.99 *H	0.13 - 1.96	%	
Total Monounsaturated Fats	27.76	15.65 - 31.82	%	
Total Omega 9 Fatty Acids	27.23 *H	16.00 - 20.60	%	

Saturated Fatty acids

Myristic Acid	0.22	0.10 - 2.45	%	
Palmitic Acid	24.81	17.50 - 27.10	%	
Stearic Acid	11.61	8.40 - 15.00	%	
Arachidic Acid	0.22	0.10 - 0.53	%	

(*) Result outside normal reference range

(H) Result is above upper limit of reference rang (L) Result is below lower limit of reference range

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Behenic Acid	0.89	0.20 - 1.59	%	
Lignoceric Acid	1.55	0.20 - 1.92	%	
Total Saturated Fats	39.30		%	
Trans Fatty Acid Profile			%	
Trans Palmitoleic Acid	0.18	0.10 - 2.45	%	
Trans Oleic Acid	0.37	0.00 - 0.51	%	
Trans Linoleic Fatty Acid	0.16	0.07 - 0.92	%	
Trans Fatty Acids, Total	0.71	0.30 - 2.02	%	
Trans Fat Index	0.53	0.22 - 1.99	%	

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Essential Fatty Acids Comment

ELEVATED DESATURASE ACTIVITY is indicative of impaired enzyme function. Delta 6 Desaturase is the enzyme that initiates metabolism of primary fatty acids (FA's) Linoleic Acid (Om 3's) and alpha Linoleic Acid (Om 6's) to other FA's. As such its activity is an important biomarker. The activity level is calculated by Linoleic Acid/Dihomo-gamma-Linoleic Acid.

Cofactors required include Zinc, B Vitamins, Vitamin C and Mg. High levels may also be contributed by SNP polymorphism, aging, diabetes, alcoholism, atopic dermatitis, rheumatoid arthritis, cancer, and cardiovascular disease, EFA supplementation (competition between Om3's and Om6's for enzyme conversion).

LOW LEVEL GAMMA LINOLENIC ACID:

Gamma linoleic Acid is produced from LA by the enzyme delta-6 desaturase. It is the precursor of DGLA, an anti-inflammatory fatty acid, and is also the precursor of arachidonic acid, a pro-inflammatory fatty acid.

Food Sources: Borage oil, Black currant oil, Evening primrose oil, Hemp.

May Indicate:

LA deficiency, Low delta-6 desaturase activity (especially if LA is also high), Magnesium, niacin, pyridoxal-5-phosphate, vitamin C or zinc deficiency (especially if LA is also high).

Associated Symptoms & Conditions:

Arthritis, Autoimmune disorders, Behavioural changes, Eczema, Growth retardation, High blood pressure, Immune dysfunction, Learning disability, Low metabolic rate, Mental disturbances, Poor coordination, Premenstrual syndrome, Tingling in arms/legs, Visual impairment, Weakness.

Treatment Considerations:

Increase dietary intake of omega 6 fatty acids, or GLA as indicated, Magnesium, niacin, pyridoxal-5-phosphate, vitamin C or zinc supplementation.

INFLAMMATION INDEX COMMENT

An AA/EPA ratio of 3.0 is deemed acceptable whilst an ideal/optimal ratio is 1.5. The patient needs to be titrated using Omega 3 Essential Fatty Acids to bring the patient to an optimal ratio.

Supplementation Recommendations:

The following dosages are suggestive guidelines as indicated in the literature:

AA/EPA Ratio	Interpretation
1.5	Ideal
3.0	Good
10	Moderate risk
>15	High risk

Treatment Suggestions	Omega-3 Per Day
Maintenance	2.5g
Improved CV function	5.0g

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Chronic pain
Neurological disease

7.5g
10.0g

TRANS FAT INDEX REFERENCE RANGES:

Desirable: < 1.0 %
Intermediate: 1.0 - 1.65 %
Undesirable: > 1.65 %

Like the essential omega-3 and omega-6 fatty acids, trans-fatty acids (fats) come only from our foods; that is, they cannot be made in the body like saturated and mono-unsaturated fats can. Although a small amount of these fats are found "naturally" in foods like full-fat dairy products and beef, the great majority (80-90%) of trans fats come from the "partial hydrogenation" of liquid vegetable oils. This is an industrial process that converts these oils into solid margarines and shortenings. Consumption of these "industrial trans fats" has been linked to increased levels of "bad" cholesterol, and decreased levels of "good" cholesterol, and more importantly, to a higher risk for heart attacks.

Blood levels of trans fats reflect levels in the diet - the more you eat, the higher they are in the blood. Therefore, the only way to lower trans fat levels in the blood is to consume less trans fats from foods. The foods that provide the most trans fats in the diet include cakes, cookies, pies, pastries, french fries, tortilla chips, crackers, popcorn, and margarines.

Unfortunately, it is virtually impossible to know for certain how much trans fat is in your diet. This is because varying amounts of trans fats are included in literally thousands of food products, and the amounts in any given food product can change over time depending on the prices of the fats used to produce the food. Consequently, the only way to know your personal Trans Fat Index is to measure it.

OMEGA 3 INDEX:

The biomarker, Omega 3 Index, has been derived from the accepted principle that the RBC membranes reflect cardiac membrane omega 3 FA content.

As supplementation of omega 3 FAs (in particular EPA and DHA) is known to reduce the risk of CHD, the Omega 3 Index expresses the sum of the EPA and DHA as a percentage of the total identified fatty acids.

An Omega 3 Index greater than 8% is deemed to be desirable (Cardioprotective).

An Omega 3 Index between 4 and 8 % is deemed acceptable.

An Omega 3 Index less than 4% is deemed to be undesirable (High Risk).

Tests ordered: RCFAPr

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