Fatty Acid Analysis

NORSAN Fatty Acid Analysis

Analyse-ID	demo	**Use natural fish oil with 2g daily dose?**	No
Date of analysis	17.10.2015	**Use other omega-3?**	No
Country	Norge	**Replicate test?**	No
Sex	Male	**Date of birth**	16.06.1974

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Your result - Summary

Keys	Your test result	Recommendation	Evaluation*
Omega-6/3 ratio	32.29	Between 1:1 and 2.5:1	Red
Omega-3 index	3.28%	Above 8%	Red
Trans fat level	0.20%	Below 0.5%	Green

- *Green *indicates a **good diet and fatty acid structure** for the respective key value*
- *Orange *indicates **potential for improvement for the diet and fatty acid structure** for the respective key value*
- *Red *indicates **indicates substantial improvement required for the diet and fatty acid structure** for the respective key value.*

Content of the Analysis

Omega-6/3 Ratio

Your result

32.3 :1

Reference Range

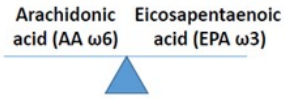
Therapeutic recommendation

The measurement of your blood test shows an undesirably predominance of the omega-6 fatty acid AA (arachidonic acid) compared to omega-3 fatty acid EPA. The Omega-6/3 Ratio is a marker for silent inflammation and a ratio between 1:1 and 3:1 is considered favourable.

To balance your Omega-6/3 Ratio the following dietary recommendations can be made:

- The value of the Omega-3 fatty acid EPA was measured in your blood test to at **0.3%** which is relatively low. You are advised to increase your intake of marine fatty acids from fish (ideally fish with a high fat-percentage such as anchovy, salmon, sardines) or use a natural fish oil with high omega-3 content. Therapeutic dose: 20ml for a period of approx. 3 months. Thereafter a normal dose of 10ml to sustain a high EPA value (close to or higher than 3%).
- Reduce your Omega-6 arachidonic acid value. We recommend values close to - or lower than - 9%. There are two approaches to reduce your arachidonic acid value (depending on your diet one or both of these can be applicable):
  - Reduce your consumption of meat and other products from animals fed on industrial feed. The reason is that industrial feed is based on omega-6 rich components, in particular soyabean meal.
  - Reduce intake of omega-6 rich vegetable oils, especially sunflower, soybean and corn kernel. Note that sunflower oil and soybean oil are widely used in the industry as components of finished and semifinished food products.

Fatty acids influencing the omega-6/3 ratio:



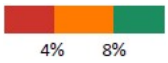
Die EPA (ω3) from fish or algae - Higher value -> lower ratio
Die arachidonic acid (AA ω6) from meat - Higher value -> higher ratio
Linolic acid (LA ω6) from omega-6 rich plants - Higher value -> higher ratio (indirectly through the conversion of LA to AA)

Omega-3 Index

Your result

3.3 %

Reference values



Therapeutic recommendation

Your Omega-3 Index of **3.3**% is low. The Omega-3 Index is a measurement of omega-3 compared to all the fatty acids in your body and the low value indicates low consumption of fish products. Omega-3 Index above 8% is beneficial from a health perspective.

Dietary recommendation to increase your Omega-3 Index to above 8%:

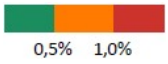
- Increase intake of omega-3 fatty acids. For regulation within a 3-4 months' period, daily dose of omega-3 should be approx. 4 grams. Fish with a high fat and omega-3-percentage are mainly anchovy, salmon and sardines.
- Alternative to fish consumption, regulating your omega-3 index would require a daily dose of 2 table spoons natural fish oil per day (approx. 16ml). After the regulation period of 3-4 months, the normal dose of 8ml fish oil per day is recommended to sustain a high omega-3 index.

Trans fat level

Your result

0.20 %

Reference values



Therapeutic recommendation

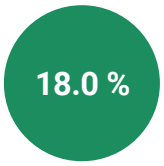
The measurement of your blood test shows that your industrial trans fatty acids constitute **0.20%** of the total fatty acids (= industrial trans fat content). Values below 0.5% are considered beneficial from a health perspective. Our diet recommendation is to continue with your current diet with a low content of industrial trans fatty acids.

Sources for industrial trans fatty acids are biscuits, bread, cakes, meat products, individual ready-made soups, snacks and generally so-called "junk food". Products which contain trans fat, mostly describe these with a finer euphemism such as "partially hardened" or "partially hydrogenated vegetable oils".

Natural trans fatty acids: Transfatty acids that are naturally produced in the organism of the animals by incomplete fat hardening (partial hydrogenation) of unsaturated fatty acids as a result of bacterial processes. These are so-called natural trans fatty acids, typically found in milk products and cheese; they are generally considered not to be harmful.

Oleic acid (ω9)

Your result

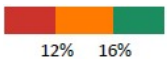


Therapeutic recommendation

Your value of omega-9 Oleic Acid is with **18.0%** at a relative healthy high level. Omega-9 is an important fatty acid and your high value is positive from a health perspective.

Typical source of omega-9 Oleic Acid is olive oil.

Reference values



Alpha-Linolenic Acid (ALA, ω3)

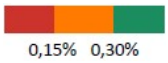
Your result

Therapeutic recommendation

Your value of Alpha-Linolenic Acid is with **0.30%** at a healthy and relative high level.

Main sources for ALA are various plant oils, in particular flaxseed oil and rapeseed oil. When selecting a flaxseed oil, you should consider the advantage of a recently cold-pressed oil (in order to reduce oxidation risk).

Reference value



Fatty Acids (all values in %)

Omega-3 Fatty Acids	Your values	Reference values*
Alpha-linolenic acid (ALA, 18:3 ω3)	0.30	0.36
Eicosapentaenoic acid (EPA, 20:5 ω3)	0.34	3.78
Docosapentaenoic acid (DPA, 22:5 ω3)	1.31	2.03
Docosahexaenoic acid (DHA, 22:6 ω3)	2.28	6.00
Sum Omega-3	**4.23**	**12.17**

Omega-6 Fatty Acids	Your values	Reference values*
Linoleic acid (LA, 18:2 ω6)	18.49	16.72
Gamma-Linoleic acid (GLA, 18:3 ω6)	0.08	0.14
Eicosadienoic acid (C20:2 ω6)	0.29	0.20
Dihomo-γ-Linoleic acid (DGLA, 20:3 ω6)	1.79	1.29
Arachidonic acid (AA, 20:4 ω6)	10.98	8.94
Docosatetraenoic acid (DTA, 22:4 ω6)	1.90	0.76
C22:5 ω6	0.34	0.25
Sum Omega-6	**33.87**	**28.30**

Omega-7 Fatty Acids	Your values	Reference values*
Palmitoleic acid (16:1 ω7)	0.53	0.70

Omega-9 Fatty Acids	Your values	Reference values*
Oleic acid (18:1 ω9)	18.01	18.74
Gondonic acid (20:1 ω9)	0.35	0.21
Nervonic acid (24:1 ω9)	0.52	0.38
Sum Omega-9	**18.88**	**19.33**

trans Fatty Acids	Your values	Reference values*
Trans-Palmitoleic acid (16:1 ω7t)	0.12	0.13
Elaidinic acid (trans oleic) (18:1t)	0.30	0.20
Trans-Linoleic (18:2 ω6tt/tc/ct)	0.05	0.17
Sum trans Fatty Acids	**0.47**	**0.50**

Saturated Fatty Acids	Your values	Reference values*
Myristic acid (14:0)	0.44	0.72
Palmitic acid (16:0)	24.68	24.0
Stearic acid (18:0)	16.04	13.15
Arachidic acid (C20:0)	0.18	0.16
Behenic acid (C22:0)	0.40	0.19
Lignoceric acid (24:0)	0.27	0.37
Sum Saturated Fatty Acids	**42.01**	**38.59**

Reference values are reproduced from the blood analysis of "healthy" people. The data represents 2,000 blood samples. The purpose is to provide a reference basis to support analysis and interpretation of individual blood samples. Important: The purpose is not to indicate "correct" values.The reference values should serve as a basis for the practical explanation and analysis of individual blood samples. The reference values are not objectively correct values, since proper nutrition always depends on individual factors.

About the test

The Fatty Acid Analysis is conducted by an independent authorised lab in Germany according to a documented and tested process and strict regulations. A total of 26 fatty acids are measured based on the blood spot sample. Presented test results represent the key indicators from a health perspective. Enhanced explanations are provided on request.

What is analyzed?

Using a blood sample 26 of your fatty acids are measured, which makes up about 99% of all the fatty acids in the body.

Your fatty acid values and structures are analyzed in relation to nutrition and its influence on our health. Three values are considered partciulary important in nutritional medicine perspective::

- Omega-6/3 Ratio
- Omega-3 Index
- trans Fat Level

The fatty acid analysis provides information on a total of 26 fatty acids (corresponding with more than 99% of all fatty acids in the body) and serves as a basis for various health analyses. We will be pleased to help you with individual advice and explain your analysis result.

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