



# Fatty Acid Analysis

## NORSAN Fatty Acid Analysis

Analyse-ID	RL44UA52	Use natural fish oil with 2g daily dose?	Yes	<a href="http://www.norsan-omega.com">www.norsan-omega.com</a> <a href="mailto:post@norsan-omega.com">post@norsan-omega.com</a> <a href="tel:+4930555788990">+49 30 555 788 990</a>
Date of analysis	31.03.2017	Use other omega-3?	No	
Country	GB	Replicate test?	Yes	
Sex	Male	Date of birth	11.11.1941	

## Your result - Summary

Keys	Your test result	Recommendation	Evaluation*
Omega-6/3 ratio	2.50	Between 1:1 and 2.5:1	 Orange
Omega-3 index	10.42%	Above 8%	 Green
Trans fat level	0.37%	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 **substantial improvement required for the diet and fatty acid structure** for the respective key value.

## Content of the Analysis

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## Omega-6/3 Ratio

Your result



Reference Range



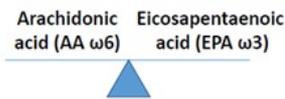
### Therapeutic recommendation

The measurement of your blood test shows a moderate predominance of the omega-6 fatty acid AA (arachidonic acid) compared to omega-3 fatty acid EPA. Your ratio is significantly better than the UK average of approx. 15:1. An Omega-6/3 ratio between 1:1 and 3:1 is considered inflammation neutral.

To reduce your Omega-6/3 Ratio within the "green" area, only a moderate diet adjustment is necessary:

- Increase your Omega-3 fatty acid EPA, which was measured at **3.6%**. Recommended are high EPA values with a guideline range above 3.5%. Intake of marine fatty acids from fish will increase EPA value as will the use of natural fish oil as supplement. If using a supplement, recommended dose is one table spoon (approx. 8ml with minimum 500mg EPA) of natural fish oil per day. This should increase your EPA value to above 3% within 2-3 months and contribute to an improved Omega-6/3 Ratio.
- Keep your Omega-6 Arachidonic Acid value at a relatively low level, i.e., not significantly above 9%. Your Omega-6 Arachidonic acid value was measured at **8.9%** which is relatively low. Your relative low level is positive and indicates a low consumption of meat and other products from animals fed on industrial feed. In general Omega-6 is contained in finished/semifinished products as well as other food products that directly or indirectly have a high content of omega-6 rich vegetable oils (especially sunflower, soybean and corn kernel). Meat and other products from animals fed on industrial feed is a significant source for Omega-6 because industrial feed to a large part consists of Omega-6 rich soybean meal.

### Fatty acids influencing the omega-6/3 ratio:



Die EPA ( $\omega$ 3) from fish or algae - Higher value -> lower ratio

Die arachidonic acid (AA  $\omega$ 6) from meat - Higher value -> higher ratio

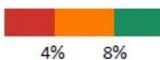
Linolic acid (LA  $\omega$ 6) from omega-6 rich plants - Higher value -> higher ratio (indirectly through the conversion of LA to AA)

## Omega-3 Index

Your result



Reference values



### Therapeutic recommendation

Congratulation! Your Omega-3 Index is measured at **10.4%** which indicates a healthy high consumption of fish products (or the use of an omega-3 supplement). Values above 8% are favorable.

Our recommendation is simple: Continue with your current high consumption of fish and/or omega-3 supplement.

## Trans fat level

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Your result



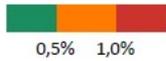
0.37 %

### Therapeutic recommendation

The measurement of your blood test shows that your industrial trans fatty acids constitute **0.37%** 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".

Reference values



0,5% 1,0%

**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 ( $\omega$ 9)

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Your result



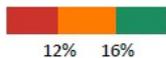
17.4 %

### Therapeutic recommendation

Your value of omega-9 Oleic Acid is with **17.4%** 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



12% 16%

## Alpha-Linolenic Acid (ALA, $\omega$ 3)

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Your result



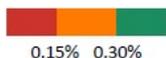
0.42 %

### Therapeutic recommendation

Your value of Alpha-Linolenic Acid is with **0.42%** 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



0,15% 0,30%

## Fatty Acids (all values in %)

### Omega-3 Fatty Acids

	Your values	Reference values*
Alpha-linolenic acid (ALA, 18:3 ω3)	0.42	0.36
Eicosapentaenoic acid (EPA, 20:5 ω3)	3.57	3.78
Docosapentaenoic acid (DPA, 22:5 ω3)	2.39	2.03
Docosahexaenoic acid (DHA, 22:6 ω3)	5.65	6.00
<b>Sum Omega-3</b>	<b>12.03</b>	<b>12.17</b>

### Omega-6 Fatty Acids

	Your values	Reference values*
Linoleic acid (LA, 18:2 ω6)	16.43	16.72
Gamma-Linoleic acid (GLA, 18:3 ω6)	0.02	0.14
Eicosadienoic acid (C20:2 ω6)	0.15	0.20
Dihomo-γ-Linoleic acid (DGLA, 20:3 ω6)	0.92	1.29
Arachidonic acid (AA, 20:4 ω6)	8.94	8.94
Docosatetraenoic acid (DTA, 22:4 ω6)	0.59	0.76
C22:5 ω6	0.17	0.25
<b>Sum Omega-6</b>	<b>27.22</b>	<b>28.30</b>

### Omega-7 Fatty Acids

	Your values	Reference values*
Palmitoleic acid (16:1 ω7)	0.81	0.70

### Omega-9 Fatty Acids

	Your values	Reference values*
Oleic acid (18:1 ω9)	17.39	18.74
Gondonic acid (20:1 ω9)	0.15	0.21
Nervonic acid (24:1 ω9)	0.55	0.38
<b>Sum Omega-9</b>	<b>18.09</b>	<b>19.33</b>

### trans Fatty Acids

	Your values	Reference values*
Trans-Palmitoleic acid (16:1 ω7t)	0.20	0.13
Elaidinic acid (trans oleic) (18:1t)	0.35	0.20
Trans-Linoleic (18:2 ω6tt/tc/ct)	0.19	0.17
<b>Sum trans Fatty Acids</b>	<b>0.74</b>	<b>0.50</b>

### Saturated Fatty Acids

	Your values	Reference values*
Myristic acid (14:0)	0.87	0.72
Palmitic acid (16:0)	25.14	24.0
Stearic acid (18:0)	13.38	13.15
Arachidic acid (C20:0)	0.20	0.16
Behenic acid (C22:0)	0.65	0.19
Lignoceric acid (24:0)	0.87	0.37
<b>Sum Saturated Fatty Acids</b>	<b>41.11</b>	<b>38.59</b>

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

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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?

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**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 particularly 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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