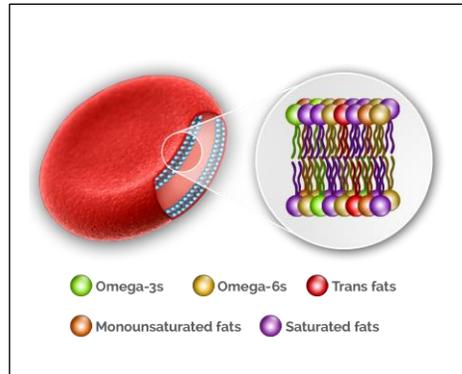


## **Omega 3 Index Complete Test / Cellular Inflammation Testing**

The Omega-3 Index Complete Test also known as cellular inflammation testing. It gives you a snapshot of the fats that make up our cells. The test measures the following:

- AA / EPA ratio
- Omega-3s
- Omega-6s
- Saturated fats
- Monounsaturated fats
- Trans fats
- Omega 3/ Omega 6 ratio



### **What is Cellular Inflammation?**

Its measuring your future wellness.

Cellular inflammation is the type of inflammation that is below the perception of pain. What it does is disrupt hormonal signaling at the cellular levels that leads to increased fat accumulation, acceleration of the development of chronic disease, and decreased physical performance. You can't feel cellular inflammation, but you can measure it. The only way to measure cellular inflammation is by testing the ratio of two essential fatty acids (AA and EPA) in your blood.

### **What is the AA/EPA Ratio?**

The AA/EPA ratio is an indication of the levels of cellular inflammation in your body. A high level of cellular inflammation does not mean you have a disease state, but it does indicate that you are not as well as you could be. Your future state of wellness can be determined by the levels of cellular inflammation in the blood as shown below.

<b>AA/EPA Ranges</b>	<b>Cellular Inflammation</b>	<b>Future state of wellness</b>
1.5 to 3	Low	Excellent
3 to 6	Moderate	Good
7 to 15	Elevated	Moderate
> than 15	High	Poor

The higher your levels of cellular inflammation, the more likely the future development of chronic disease will be accelerated. A recent study from Italy has demonstrated that the AA/EPA ratio is always greater than 15 in patients with chronic diseases.

### **Dietary Methods to Improve the AA/EPA Ratio**

There are no drugs that can change the AA/EPA ratio. This is because the AA/EPA ratio is a consequence of the diet. One method of lowering the AA/EPA ratio is to increase the intake of high-purity omega-3 fatty acid concentrates rich in EPA. This will increase the EPA content in the blood. This represents the fastest way to reduce the AA/EPA ratio. However, the best long-term method is to reduce the AA levels in the blood. This is best achieved by following a strict anti-inflammatory diet, such as the Zone Diet / Ketogenic / Paleo. The Zone / Ketogenic / Paleo Diet were designed to reduce elevated levels of both insulin and omega-6 fatty acids so that the production of AA is significantly reduced. The combination of an anti-inflammatory diet coupled with high-purity omega-3 concentrations represents the most powerful dietary approach to reach and maintain a low level of cellular inflammation for a lifetime.

### **How much EPA and DHA do I have to take to reduce the AA/EPA ratio?**

A recent dose-response study in healthy women who had a high risk for potential breast cancer has provided supplementation guidelines for reduction of the AA/EPA ratio.

<b>Grams of EPA and DHA supplemented per day</b>	<b>AA/EPA Ratio</b>
0	12.1
0.8	4.7
2.5	2.6
5.0	1.3
7.5	1.2

This data indicates that a daily dosage of EPA and DHA of 2.5 grams was sufficient to bring the AA/EPA ratio into the desired range for excellent wellness for these healthy individuals. This level of EPA and DHA recommendation correlates well with an Italian study that demonstrated in patients with various chronic diseases having an elevated AA/EPA ratio (>15) lowered their elevated AA/EPA ratio to approximately 5 with daily supplementation of 2.5 grams of EPA and DHA. This is also indicative that a person with an existing chronic disease may need greater amounts of EPA and DHA to get them into an excellent wellness range compared to a healthy individual.

However, these are only general guidelines for daily EPA and DHA supplementation. The best indication of the amount of EPA and DHA required to optimize the AA/EPA ratio for an individual is best determined with blood testing every six to twelve months.

### **Omega 3**

The three main omega-3 fatty acids are alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA). ALA is found mainly in plant oils such as flaxseeds, walnuts, and their oils are among the richest dietary sources of ALA. Canola oil is also an excellent source of ALA. Dietary surveys in the US indicate that average adult intakes for ALA range from 1.8-2.0 g/day for men and from 1.4-1.5 g/day for women.

**Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA):** Oily fish are the major dietary source of EPA and DHA. Dietary surveys in the US indicate that average adult intakes of EPA range from 0.03-0.06 g/day, and average adult intakes of DHA range from 0.05-0.10 g/day.

Humans can synthesize arachidonic acid(AA) from LA and EPA and DHA from ALA through a series of desaturation and elongation reactions. EPA and DPA are also obtained from the retroconversion of DHA. Due to low conversion efficiency, it is advised to obtain EPA and DHA from additional sources.

Omega-3s are important components of the membranes that surround each cell in your body. DHA levels are especially high in retina (eye), brain, and sperm cells. Omega-3s also provide calories to give your body energy and have many functions in your heart, blood vessels, brain, eye, lungs, immune system, and endocrine system (the network of hormone-producing glands). There are multiple benefits to the mind and body in having a higher Omega-3 Index, all of which contribute to slower aging.

### **Omega 6**

Like omega-3 fatty acids, omega-6 fatty acids are polyunsaturated fatty acids.

These fats are primarily used for energy. The most common omega-6 fat is **linoleic acid**. Linoleic acid itself plays a special role in support of heart health. It reduces total and LDL cholesterol, improves insulin sensitivity and blood pressure.

Gamma-linolenic acid (GLA) is an omega-6 fatty acid found in certain oils, such as evening primrose oil and borage oil. It can reduce a number of symptoms of rheumatoid arthritis.

Conjugated linoleic acid (CLA) is another form of omega-6 fat that has some health benefits. It reduces body fat mass.

## **Saturated Fat**

A **saturated fat** is a type of fat in which the fatty acid chains have all or predominantly single bonds. Examples of foods containing a high proportion of saturated fat include animal fat products such as cream, cheese, butter, other whole milk dairy products and fatty meats which also contain dietary cholesterol. The World Health Organization, have advocated for reduction in the intake of saturated fat to promote health and reduce the risk from cardiovascular diseases.

## **Monounsaturated fat**

Monounsaturated fat is a type of dietary fat. It is one of the healthy fats, along with polyunsaturated fat. Monounsaturated fats are found in plant foods, such as nuts, avocados, vegetable oils, olive oil, sesame oils. Foods containing monounsaturated fats reduce low-density lipoprotein (LDL) cholesterol, while possibly increasing high-density lipoprotein (HDL) cholesterol. Monounsaturated fats help develop and maintain your cells.

## **Trans fats**

There are two broad types of trans fats found in foods: naturally-occurring and artificial *trans* fats. Naturally-occurring trans fats are produced in the gut of some animals and foods made from these animals (e.g., milk and meat products) may contain small quantities of these fats. Artificial *trans* fats (or *trans* fatty acids) are created in an industrial process that adds hydrogen to liquid vegetable oils to make them more solid.

The primary dietary source for *trans* fats in processed food is “partially hydrogenated oils.”

*Trans* fats can be found in many foods – including fried foods like doughnuts, and baked goods including cakes, pie crusts, biscuits, frozen pizza, cookies, crackers, and stick margarines and other spreads.

## **Why OmegaQuant Omega 3 Complete Test Kit?**

- It is the world's only laboratory dedicated to fatty acid analysis that is CLIA (Clinical Laboratory Improvement Amendments) certified and regulated by FDA.
- This test has been used in 200+ research studies
- Validated and standardised testing methods by FDA
- OmegaQuant is a recognised expert in fatty acid research