



## ESSENTIAL FATTY ACIDS TEST

Reveal essential fatty acid imbalances to combat immune and inflammatory disorders.

### Why You Need Essential Fatty Acids Test

#### Functions of Essential Fatty Acids

Essential fatty acids are crucial for the body's proper cell function and energy storage. They are also fundamental for brain health, the transport and breakdown of cholesterol, and the regulation of blood pressure, liver function, immune and inflammatory responses.<sup>7</sup>

Sedentary lifestyle and poor eating habits are associated with inflammatory, cardiovascular, and hormonal disorders.

#### The Impact of Essential Fatty Acids Test

The Essential Fatty Acids Test reveals imbalances linked to cardiovascular diseases, inflammatory disorders, and other health issues. This test also allows for personalized dietary and supplementation plan to optimize fatty acid levels and to mitigate the long-term effects of imbalances.

- ✓ Measures the level of 18 omega-3, -6, and -9 fatty acids, 2 saturated fats, and the ratio of AA/EPA and omega-3 to -6
- ✓ Evaluates nutritional intake and essential fatty acids deficiency
- ✓ Identifies fatty acid imbalance associated with immune and inflammatory conditions
- ✓ Monitors treatment of patients with impaired fat metabolism
- ✓ Provides clinically actionable information that enables clinicians to develop targeted and comprehensive plans to address fatty acid imbalances

Having balanced levels of omega-3 fatty acids can reduce the risk of heart diseases, while a balanced ratio of omega-3 to -6 may decrease the risk of inflammation.<sup>8</sup>



# ESSENTIAL FATTY ACIDS TEST

## Fatty Acids Tested:

**Omega-3** fatty acids can be found in plant and animal sources. It is vital for heart health and the prevention of depression, liver fat build-up, asthma, and lowers blood triglycerides.<sup>12</sup> Types of omega-3 fatty acids include eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), alpha-linolenic acid (ALA), and eicosatrienoic acid. Specific levels of EPA and DHA have been connected to lower risks of fatal cardiovascular diseases.<sup>8</sup>

**Omega-6** fatty acids, especially linoleic acid, are commonly found in vegetable oils. Excessive levels of omega-6 is crucial for cardiovascular health, as it increases blood pressure and encourages blood clot. Other health risks include cancer, asthma, arthritis, and depression.<sup>13</sup> Other types of omega-6 fatty acids include gammalinolenic acid (GLA), eicosadienoic acid (EDA), dihomogammalinolenic acid (DGLA), arachidonic acid (AA), and docosatetraenoic acid (DTA).

**Omega-9** fatty acids increase high-density lipoprotein (HDL) cholesterol and decrease low-density lipoprotein (LDL) cholesterol, unclog plaque build-up in the arteries, which may lead to stroke and heart attack. They also play an essential role in increasing energy and enhancing mood.<sup>11</sup> Although deficiency is rare, some symptoms include hair loss, dry eyes, and stiff joints. Types of omega-9 fatty acids include trans-elaidic acid (TEA), cis oleic acid, eicosenoic acid, erucic acid, and nervonic acid.

**Saturated Fats** are widely known for their harmful effects in the body and are mainly found in foods such as butter, palm, cheese, red meat, and coconut oils. Balanced levels of saturated fat are essential for energy production, but toxic levels can raise LDL or bad cholesterol that can lead to cardiovascular diseases, weight gain, and other health problems.<sup>15</sup> The Essential Fatty Acid Test measures two types of saturated fats: (1) palmitic acid, a solid saturated fatty acid found in palm oil, vegetable, and animal fats, and (2) stearic acid, a wax-like fatty acid found in animal and vegetable fats that is commonly used as an ingredient of emulsifiers and lubricants.<sup>6</sup>

**AA to EA ratio** or Arachidonic Acid (AA) to Eicosapentaenoic Acid (EPA) detects levels of cellular inflammation, a type of inflammation that increases the risk of developing chronic conditions. High levels of inflammation may also lead to decreased physical performance and increased fat accumulation.<sup>4</sup>

**Omega-3 to -6 ratio** should be balanced to reduce inflammation and to improve heart health. High omega-3 to -6 ratio increases the risk of acquiring cardiovascular, inflammatory, and autoimmune diseases. The recommended ratio of omega-3 to -6 fatty acids intake is 4:1 or less.<sup>3</sup>

This test also examines for **total omega 3, 6, and 9.**

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## TEST INFORMATION

Specimen : 6 ml. blood, 3 ml. packed RBC in EDTA-heparin vacutainer tubes  
Result TAT : 7 working days  
Method : Gas Chromatography

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