

Essential fatty acids

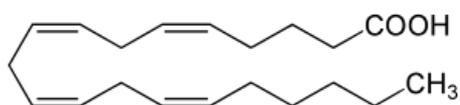
The human organism can **desaturate** a fatty acid molecule at the **9th carbon** position at most. If the double bond is further away, the body cannot create it, and we must take in such fatty acids in food and call them **essential fatty acids**.

Linoleic acid

Linoleic acid is made up of eighteen carbons and two double bonds. The cis double bond is in positions 9 and 12 and is therefore designated as ω -6. It is mainly found in **plant-based oils**, such as the sunflower oil. It possesses **pro-inflammatory properties**, like other ω -6 fatty acids, and increases plasma levels of some lipids. Linoleic acid is used in the biosynthesis of arachidonic acid.

Arachidonic acid

Arachidonic acid is made up of twenty carbons and four double bonds, it is also an ω -6 fatty acid. It functions as an important precursor of biologically active substances – eicosanoids (prostaglandins, prostacyclins, leukotrienes and thromboxanes).



Arachidonic acid

α -linolenic acid

Alpha-linolenic acid consists of eighteen carbons and three double bonds. The cis double bond is located in positions 9, 12 and 15, therefore it is designated as ω -3. It is mainly found in fish and marine animals. It lowers the level of cholesterol and TAG in the body and thus **reduces** the **risk of cardiovascular diseases**, it also has anti-inflammatory effects.

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