

Methionine - description, benefits, effect on the body and the best sources

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Abstract. Methionine is an essential sulfur-containing amino acid that is part of proteins. Used by the body during the synthesis of adrenaline, choline, cysteine and other substances necessary for the body.

Keywords: methionine, general characteristics, daily requirement, digestibility, beneficial properties, signs of deficiency, signs of excess

Methionine-rich foods:

- Chicken and quail eggs [1]
- Pork and beef
- Chicken
- Sea fish
- Milk
- Cereal beans [2] and asparagus beans [3]
- Sesame
- Soya beans
- Chickpeas
- Lentils [4]
- Walnuts [5]
- Peanut
- Almond
- Sprouted wheat grains
- Corn [6]

General characteristics of methionine

Methionine is colorless crystals, highly soluble in water, with a specific, not very pleasant odor. Methionine belongs to monoaminocarboxylic acids. The human body does not produce acid on its own, which is why it is considered essential.

A large amount of methionine is found in casein, a substance found in milk and other foods. An artificial analogue of methionine is produced in the form of a medical preparation, and is also used in animal husbandry and is part of sports nutrition preparations.

Daily requirement for methionine

According to official medicine, the daily requirement for methionine is, on average, 1500 mg.

The need for methionine increases:

- in case of poisoning with chemicals;
- during pregnancy [7] (prevents the development of nervous system defects in the fetus);

- during the treatment of alcoholism and the removal of alcohol intoxication [8];
- with chronic fatigue syndrome, depression [9];
- for liver diseases (biliary dyskinesia, fatty liver, gallstones);
- for multiple vascular sclerosis, arthritis [10], fibrocystic mastopathy;
- with excess body weight;
- diabetes mellitus [11];
- with senile dementia (Alzheimer's disease [12]);
- in Parkinson's disease [13];
- for fibromyalgia;
- after illnesses to strengthen the immune system.

The need for methionine decreases:

- with chronic liver failure;
- diseases of the cardiovascular system;
- with hepatitis A [14];
- in case of individual allergic reactions to methionine;
- with high levels of cholesterol [15] in the blood.

Methionine digestibility

It is believed that methionine is absorbed 100%.

Beneficial properties of methionine and its effect on the body

- methionine reduces the level of bad cholesterol [16] in the blood;
- participates in the synthesis of choline, adrenaline and creatine. In addition, it is necessary in the synthesis of cysteine and other biologically important compounds;
- participates in the activation of the immune system, and also ensures the full functioning of the nervous system;
- helps remove toxins from the body;
- improves the regenerative ability of the liver and kidneys;
- cleanses the body of all kinds of toxins and free radicals;
- prevents skin and nail diseases [17-18];
- prevents the deposition of excess fat;
- strengthens strength, increases the overall tone of the body;
- has a beneficial effect on the course of Parkinson's disease.

Interaction with other elements:

Methionine in the human body interacts with proteins [19], fats [20] and carbohydrates [21]. In addition, it has a beneficial effect on the production of enzymes.

Signs of methionine deficiency in the body:

With proper balanced nutrition, methionine deficiency rarely occurs, but this condition can cause the following changes in the body:

- liver damage;
- swelling [22];
- hair fragility;
- slow development of the fetus and newborn;
- malformations of the nervous system in children.

In addition, a lack of methionine can lead to severe mental disorders.

Signs of excess methionine in the body:

- allergic reactions [23];
- nausea and vomiting;
- some people feel drowsy.

Pregnant women and nursing mothers should not take methionine without first consulting a doctor. In addition, those taking oral contraceptives should also visit their gynecologist, due to the fact that methionine increases estrogen production.

Methionine can aggravate symptoms of liver and heart disease. Negatively affect the development of atherosclerosis [24]. Patients with high levels of acidity in the stomach are generally not recommended to consume foods rich in methionine.

Factors affecting methionine content in the body

- proper functioning of the gastrointestinal tract;
- complete absorption of methionine in the body;
- the presence of methionine-rich foods in the diet.

Methionine for beauty and health

A sufficient amount of methionine in the body has a beneficial effect on hair growth [25]. In addition, methionine is an excellent antioxidant [26] and actively fights the signs of aging in the body. It activates the functioning of the sex glands, thanks to it the condition of the skin improves [27], and a blush appears on the cheeks.

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