

Lactic acid - description, benefits, effects on the body and the best sources

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Abstract. Many people love delicious and healthy kefir, fermented baked milk, and yogurt. They have a pleasant, slightly sour taste and are not only tasty, but also healthy food for our body. After all, they contain lactic acid, which we need for health and energy.

Lactic acid is actively produced by the body as a result of intense sports training. Its excess in the body is familiar to each of us from the sensations of muscle soreness after school physical education lessons.

Lactic acid is used by the body for important chemical reactions. It is necessary for metabolic processes to occur. Directly used by the heart muscle, brain and nervous system.

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

Foods rich in lactic acid:

- Kefir
- Acidophilus milk
- Ryazhenka [1]
- Serum
- Curdled milk [2]
- Sour cream
- Cheese
- Ayran
- Cottage cheese [3]
- Ice cream
- Yogurt (without filler) [4]
- Sauerkraut [5]
- Bread "Borodinsky"
- Kvass
- Beer

General characteristics of lactic acid

Lactic acid was discovered in 1780 by the Swedish chemist and pharmacist Carl Scheele. It was thanks to this outstanding person that many organic and inorganic substances became known to the world - chlorine, glycerin, hydrocyanic and lactic acids. The complex composition of air has been proven.

Lactic acid was first found in animal muscles, then in plant seeds. In 1807, the Swedish mineralogist and chemist Jens Jakob Berzelius isolated lactic acid salts - lactates - from muscles.

Lactic acid is produced by our body during the process of glycolysis - the breakdown of carbohydrates under the influence of enzymes. Acid is produced in large quantities in the brain, muscles, liver, heart and some other organs.

In food products, when exposed to lactic acid bacteria, lactic acid is also formed. There is a lot of it in yogurt, kefir, fermented baked milk, sour cream, sauerkraut, beer, cheese and wine.

Lactic acid is also produced chemically in factories. It is used as a food additive and preservative E-270, which is considered safe to eat by most people. It is added to infant formula, salad dressings and some confectionery products.

Daily requirement for lactic acid

The body's daily requirement for this substance is not clearly indicated anywhere. It is known that with insufficient physical activity, lactic acid in the body is produced worse. In this case, to provide the body with lactic acid, it is recommended to drink up to two glasses of yogurt or kefir per day.

The need for lactic acid increases with:

- intense physical activity [6], when activity increases by 2 times;
- under high mental stress [7];
- during active growth and development of the organism [8].

The need for lactic acid is reduced:

- in old age;
- for liver and kidney diseases;
- with high levels of ammonia in the blood.

Lactic Acid Absorption

The lactic acid molecule is almost 2 times smaller than the glucose molecule. It is thanks to this that it is very quickly absorbed by the body. Bypassing all kinds of obstacles, it easily penetrates the membranes of the cells of our body.

Beneficial properties of lactic acid and its effect on the body

Lactic acid is involved in providing the body with energy, plays an important role in metabolic processes and in the creation of glucose [9]. Necessary for the full functioning of the myocardium, nervous system, brain and some other organs. It has an anti-inflammatory [10] and antimicrobial effect on the body.

Interaction with other elements:

Lactic acid reacts with water [11], oxygen, copper [12] and iron [13].

Signs of lack of lactic acid in the body:

- lack of strength;
- digestive problems;
- weak brain activity.

Signs of excess lactic acid in the body:

- convulsions of various origins;
- severe liver damage (hepatitis [14], cirrhosis [15]);
- elderly age;
- decompensation of diabetes mellitus;
- a large amount of ammonia in the blood.

Lactic acid for beauty and health

Lactic acid is included in cuticle removers. It does not damage normal skin, but acts only on the keratinized layers of the epidermis. This property is used to remove calluses and even warts.

Hair masks made from curdled milk have proven themselves to be effective against hair loss. In addition, the hair becomes shiny and silky [16]. The product works well on dry and normal hair. After leaving on the hair for 30 minutes, the mask is washed off with warm water without using shampoo.

In the beauty secrets of our grandmothers you can find a miraculous recipe for maintaining youthful and healthy skin - daily washing with sour milk. Ancient manuscripts claim that such washes help cleanse the skin of freckles and age spots, making the skin smoother and softer.

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