

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

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Abstract. We have all at least once felt a state of general weakness: bad mood, irritability, sleep disturbance. Plus problems with the cardiovascular system, and sometimes an unhealthy craving for alcohol... All these are signs of a lack of an essential amino acid for our body - tryptophan.

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

Tryptophan-rich foods:

- Soybeans
- Cheese
- Milk
- Yogurt [1]
- Cottage cheese [2]
- Mushrooms
- Oatmeal [3]
- Banana [4]
- Dates [5]
- Peanut
- Sesame
- Pine nuts
- Walnut [6]
- Meat
- Fish

General characteristics of tryptophan

Tryptophan belongs to the group of essential amino acids, present mainly in foods of plant origin. It helps with hyperactivity syndrome in children. It is used to control body weight, as well as to normalize the synthesis of growth hormone. It is a source of serotonin – the hormone of joy. In addition, it is involved in the production of niacin (vitamin B3).

Daily requirement for tryptophan

Our body's daily need for tryptophan is 1 gram. In this case, it is advisable to use not tablets containing it, but the products described above. The fact is that a chemically produced amino acid may have such disturbances in the structural diagram that will not allow it to be properly absorbed by the body. If, for some reason, you still have to use dietary supplements containing tryptophan, combine their use with foods containing carbohydrates.

The need for tryptophan increases with:

- Depression [7];
- increased irritability and aggressiveness;
- seasonal functional disorders;
- anxiety states (including PMS [8]);
- for eating disorders (bulimia, anorexia);
- migraine and headaches of various types [9,10];
- obsessive-compulsive neurosis and schizophrenia;
- chronic diseases of the heart and blood vessels [11,12];
- sleep disorders [13];
- increased sensitivity to pain;
- alcohol addiction;
- chronic fatigue syndrome.

The need for tryptophan decreases when:

- familial hypertryptophanemia (a hereditary disease that disrupts metabolism and leads to the accumulation of tryptophan in the blood);
- Hartnup's disease (impaired active transport of tryptophan through the intestinal wall);
- Tada syndrome (a hereditary disease associated with impaired conversion of tryptophan into kynurenine. The disease causes damage to the central nervous system);
- Price's syndrome (a genetic disease manifested by increased excretion of kynurenine in the urine, as well as scleroderma);
- indicanuria (increased levels of indican in the urine).

Tryptophan absorption

For complete metabolism of tryptophan, the presence of vitamins is necessary: C [14], B6 and folic acid (vitamin B9 [15]). In addition, the presence of magnesium is also necessary [16]. Therefore, when taking tryptophan, you should not forget about these nutrients.

Beneficial properties of tryptophan and its effect on the body

The use of tryptophan has a beneficial effect on chronic diseases of the heart and blood vessels. The number of people abusing alcohol is decreasing. The number of strokes decreases [17]. Women experience PMS more easily. The quality of sleep improves and signs of chronic fatigue disappear.

Interaction with other elements

As mentioned above, tryptophan successfully interacts with vitamins B6 and B9, vitamin C, as well as magnesium. In addition, it goes well with foods rich in carbohydrates [18].

Signs of tryptophan deficiency in the body

- irritability;
- poor sleep;
- fast fatigability;
- alcohol addiction;
- frequent headaches;

- problems with the cardiovascular system;
- manifestations of PMS;
- increased spasms of the coronary arteries.

Signs of excess tryptophan in the body

To detect excess tryptophan, it is necessary to donate blood for the level of 3-hydroxyanthranilic acid. The presence of a large amount of tryptophan in the blood can lead to bladder tumors!

Tryptophan for beauty and health

Since tryptophan is one of the most important natural amino acids, its use has a beneficial effect not only on the internal organs and systems of a person, but also on his appearance. And since appearance plays a significant role in ensuring a good mood, regular consumption of products containing tryptophan can be equated to a trip to a beauty salon or even a trip to the Maldives!

Literature

1. Tkacheva, N., & Eliseeva, T. (2022). Yogurt: health effects and benefits proven by scientists. *Journal of Healthy Eating and Dietetics*, 1 (19), 28-33. DOI: 10.59316/.vi19.155
2. Yampolsky, A., & Eliseeva, T. (2020). Cottage cheese. *Journal of Healthy Eating and Dietetics*, (11), 37-50. DOI: 10.59316/.vi11.64
3. Yampolsky, A., & Eliseeva, T. (2021). Oatmeal. *Journal of Healthy Eating and Dietetics*, (15), 43-60. DOI: 10.59316/.vi15.97
4. Eliseeva, T., & Tarantul, A. (2018). Banana (Musa). *Journal of Healthy Eating and Dietetics*, 3 (5), 31-43. DOI: 10.59316/.vi5.24
5. Yampolsky, A., & Eliseeva, T. (2020). Dates (Phoenix dactylifera). *Journal of Healthy Eating and Dietetics*, (14), 38-50. DOI: 10.59316/.vi14.89
6. Eliseeva, T., & Yampolsky, A. (2019). Walnut (lat. Jùglans régia). *Journal of Healthy Eating and Dietetics*, 4 (10), 2-14. DOI: 10.59316/.vi10.53
7. Tkacheva, N., & Eliseeva, T. (2020). Food against depression. *Journal of Healthy Eating and Dietetics*, (11). DOI: 10.59316/j.edpl.2020.11.46
8. Eliseeva, T., & Tkacheva, N. (2020). Food for PMS. *Journal of Healthy Eating and Dietetics*, (11). DOI: 10.59316/j.edpl.2020.11.22
9. Lazareva, V., & Eliseeva, T. (2021). Nutrition for migraine. *Journal of Healthy Eating and Dietetics*, (16). DOI: 10.59316/j.edpl.2021.16.17
10. Tkacheva, N., & Eliseeva, T. (2020). Food against headaches. *Journal of Healthy Eating and Dietetics*, (11). DOI: 10.59316/j.edpl.2020.11.19
11. Shelestun, A., & Eliseeva, T. (2021). Heart Healthy Foods - 15 Best Foods to Protect Against Heart Disease. *Journal of Healthy Eating and Dietetics*, 3 (17), 35-40. DOI: 10.59316/.vi17.119
12. Eliseeva, T., & Tkacheva, N. (2020). Nutrition for vascular health - healthy and dangerous foods, recommendations. *Journal of Healthy Eating and Dietetics*, (12). DOI: 10.59316/j.edpl.2020.12.25
13. Lazareva, V., & Eliseeva, T. (2021). Nutrition for insomnia. *Journal of Healthy Eating and Dietetics*, (16). DOI: 10.59316/j.edpl.2021.16.13

14. Eliseeva, T., & Mironenko, A. (2018). Vitamin C (ascorbic acid) description, benefits and where it is found. *Journal of Healthy Eating and Dietetics*, 2 (4), 33-44. DOI: 10.59316/.vi4.19
15. Mironenko, A., & Eliseeva, T. (2019). Vitamin B9 - description, benefits, effects on the body and the best sources. *Journal of Healthy Eating and Dietetics*, (10), 88-100. DOI: 10.59316/.vi10.60
16. Mironenko, A., & Eliseeva, T. (2020). Magnesium (Mg, Magnesium) - description, effect on the body, best sources. *Journal of Healthy Eating and Dietetics*, (14), 60-71. DOI: 10.59316/.vi14.91
17. Lazareva, V., & Eliseeva, T. (2021). Stroke - signs and symptoms, useful and dangerous foods, folk remedies. *Journal of Healthy Eating and Dietetics*, (16). DOI: 10.59316/j.edpl.2021.16.39
18. Eliseeva, T., & Shelestun, A. (2019). Carbohydrates - description, benefits, effect on the body and the best sources. *Journal of Healthy Eating and Dietetics*, 1(7). DOI: 10.59316/j.edpl.2018.7.8

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