



## **CHEMICAL ANALYSIS OF AMINO ACIDS**

Sharipova Nasiba Uktamovna

Assistant of the Department of Chemistry, Bukhara Institute of Engineering Technology

E-mail: sharipova5113@gmail.com Тел:91-407-51-13

<b>ABSTRACT</b>	<b>KEYWORDS</b>
The article discusses the chemical analysis of amino acids found in the human body, their functions, and their beneficial and harmful aspects.	Tryptophan, phenylalanine, methionine, lysine, valine, threonine, isoleucine, leucine, indole, pyruvate.

### **Introduction**

Amino acids - are organic compounds with an amine and a carboxyl group in the molecule. Amino acids are colorless, water-soluble crystalline substances. 200 natural amino acids are known, but only 20 amino acids and their 2 amides are found in proteins. The rest are not proteins. Amino acids belong to the D- or L-series based on how the N and NH<sub>2</sub> groups are located on the carbon atom. Almost all natural Amino Acids belong to the L-series. D-series amino acids are rare in nature and are found in microorganisms. The L-form of amino acids is well absorbed by plants and it participates in all metabolic processes, but D-forms cannot be absorbed by plants, sometimes they stop metabolic processes. This indicates that the enzyme system of the organism is adapted to the L-series of amino acids. Amino acids are found in the body free and in the form of proteins or other compounds. Proteins are composed of amino acids (lysine, histidine, arginine, aspartic acid, asparagine, threonine, serium, glutamic acid, glutamine, proline, glycine, alanine, cysteine, isoleucine, leucine, methionine, valine, tyrosine, phenylalanine, and tryptophan). . Amino acids found in proteins are formed as a result of their enzymatic change. Some amino acids cannot be synthesized by the animal or human body. These are essential amino acids and they are 8 tryptophan, phenylalanine, methionine, lysine, valine, threonine, isoleucine and leucine.

### **Tryptophan**

Aminopropionic acid, C<sub>n</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub> is an important natural amino acid. (adults 0.25 g overnight, children under 7 years of age about 1 g) a person experiences mental retardation if he does not have a congenital oxidative enzyme-tryptophanpyrrolase. Violation of tryptophan metabolism leads to severe diseases (tuberculosis, cancer, diabetes). Synthetic tryptophan is enzymatically synthesized from indole, pyruzum acid and ammonia.

## **Phenylalanine**

When the amount of phenylalanine in the blood is insufficient, the ability of the brain to work is impaired, because phenylalanine is important for the synthesis of tyrosine and tryptophan. Phenylalanine deficiency causes miscarriages, heart disease and even kidney failure.

## **Methionine**

2-amino-4-methylthiobutanoic acid. It participates in the synthesis of substances such as adrenaline and creatine in the body, enhances the effects of hormones, enzymes, and vitamins. When there is a lack of methionine, the metabolism is disturbed, and the liver is filled with fat (in liver cirrhosis, it is given when the liver tissues are damaged by drugs, chloroform, benzene and other toxic substances). It is prescribed to the elderly for the prevention and treatment of atherosclerosis. Tablets are released from 0.25 and 0.5 g.

**Lysine** — 1.9% in wheat flour, 10% in beef, 8.7% in cow's milk. There are optically active D and L forms. Soluble in base, acid and water. Lysine was first synthesized in 1889. Improves blood circulation in the brain.

**Valin-** A person needs 400-800 mg of aminoisovaleric acid per day.

Many neurologists believe that taking valine can help maintain mental health, improve muscle coordination, and reduce stress. Many athletes take valine-rich pills because they help repair tissue, especially muscle tissue. An amino acid that can be added to gluconeogenesis, it helps to produce energy, which is important not only for physical activity, but also for neural activity.

**Threonine** - Deficiency causes metabolic disorders such as birth defects in young children, stunted growth, inability to retain and excrete nitrogen through urine, and some failure to gain weight in infants. People with low levels of threonine have been observed to be more prone to intestinal infections when on a diet.

Eggs, milk, soy and gelatin have been found to be very rich in threonine. Threonine is also found in chicken, pork, rabbit, lamb. Vegetable foods are abundant in cabbage, onions, garlic, chard and eggplant.

**Isoleucine** is the main amino acid in blood synthesis.

**Leucine**-aminoisocaproic acid was obtained from muscle tissue by the French scientist A. Braconno in 1820. If there is no leucine in the food, the nitrogen balance will be disturbed and young children will not grow. It is used together with other amino acids in the treatment of liver diseases, anemia, and some mental illnesses.

In conclusion, plants have the ability to synthesize all the nitrogenous compounds they need. During the synthesis of amino acids, ammonia nitrogen is converted into organic compounds. Amino acids formed in plants are constantly changing. They are mainly used for the synthesis of proteins, and can also be decarboxylated, used for the synthesis of nitrogenous bases and other compounds, separate the amino group, completely oxidize and serve as a source of energy for the body. Many amino acids are used in medicine, animal husbandry, as well as in the food and microbiology industry. Amino acids are now also used as fertilizers.

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