

Proteins & Amino Acids

It is well known that the human body is composed of protein. Protein comprises about half your dry weight (not counting water content). Protein is required to form your muscles, tendons, ligaments, skin, hair, nails, eyes, bone, teeth and all internal organs; moreover, various proteins and protein components are required to form your blood, nerves, brain, lymph, some hormones, enzymes, some coenzymes... the list goes on and on.

But proteins are more than crude structural elements. Perhaps even more importantly, some protein molecules have very specific functions in the body, including the transmission of electrical messages from nerve to nerve.

About Amino Acids

Proteins are made of amino acids; amino acids are the building blocks of the body. They are also necessary to the orderly functioning of every bodily process. Of the 22 amino acids, there are eight that are commonly referred to as "essential" amino acids, so called because they cannot be produced in the body and must be consumed from outside sources. (These should properly be called "dietary essential" or "essential in diet.") Two of the amino acids we call "semi-essential" (more accurately, "dietary semi-essential"), because they are necessary for proper growth in children. The other twelve amino acids are produced within the body.

Without the proper quantities of all of the amino acids, it is impossible to maintain good health. When improper amounts or proportions of amino acids are consumed, the less important body tissues are "cannibalized" in the attempt to restore balance, causing premature aging and possibly severe deficiencies.

Proteins that are eaten are broken down into amino acids by the digestive system. They are then carried throughout the body by the blood and distributed by the cells to wherever they are needed, to construct new tissues, enzymes, hormones and so forth.

Foods that contain all eight dietary essential amino acids are called "complete protein" foods.

Amino Acids Essential in Diet

Isoleucine: is an essential nutrient for both children and adults. It is commonly used in many tonic preparations and as an ingredient in amino acid injections.

Leucine: is another essential nutrient; however, it lowers the blood glucose level and can result in a nutritional conflict with other amino acids if not taken in a proportioned balance along with all the other amino acids. Some research suggests that Leucine, Isoleucine and Valine, the branched-chain amino acids, may help athletic performance.

Lysine: Researchers claim that Lysine will reverse the progress of herpes simplex. It is chiefly linked with the sustained growth of children. It will help in maintaining nitrogen equilibrium in adults.

Methionine: A deficiency in Methionine will prevent the liver from producing the crucial blood proteins albumin and globulin (antibodies). This deficiency also causes edema (swelling), due to a breakdown in the body's ability to collect urine normally. This deficiency also can cause hair to fall out and permit fat to build up in the liver. Methionine combined with choline and folic acid offers the body a possible defense against growth of tumours.

Phenylalanine: plays a role in the function of the nervous system, contributing to mental alertness, intellectual performance and mental outlook. Researches also suggest that Phenylalanine may act as a natural appetite suppressant.

Threonine: has been said, along with Lysine, to be one of the most important amino acids for solving the world protein problem. A low protein diet results in many problems, one of which is a fatty liver. Many researchers believe Threonine can address this and many other protein deficiency problems.

Tryptophan: another dietary essential amino acid, is a precursor for the neurotransmitter serotonin, and also can be converted into niacin.

Valine: is a branched - chain amino acid. It is important for normal muscle metabolism, and facilitates normal protein metabolism.

Arginine & Histidine: Arginine is known as an important amino acid in relation to the urea cycle and researchers claim it will help to improve the quality of ammonia toxic blood. Histidine is essential for synthesizing histamines, which cause vasodilation in the circulatory system. Histidine also is important for children's growth.

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We suggest you always use caution when taking any herb or medication other than those prescribed or suggested by your physician. And if pregnant or nursing, again, please use caution. All herbs and medications should be kept out of the reach of children.