

Amino-Mix is a mix of **free-form amino acids** from a hydrolysed serum protein containing all of the **essential branched-chain amino acids**. In order to obtain amino acids, serum proteins are broken down with the help of enzymes (protease) in a process known as hydrolysis. After this process, the amino acids are more easily assimilated by the body. Amino acids are the basic components of protein and are important for numerous chemical reactions and the correct biological functioning of the body.

Ingredients: Hydrolyzed *alpha*-lactalbumin (whey (**milk**) protein), bulking agent (microcrystalline cellulose), anti-caking agent (dicalcium phosphate), carriers (sorbitol, sodium carboxy methylcellulose and vegetable stearic acid (fatty acids)), anti-caking agents (magnesium salts of fatty acids and silicon dioxide).

Nutritional information:	6 tablets (7 620 mg)
Hydrolyzed <i>alpha</i> -lactalbumin	5 100 mg
Providing (typical amino acid profile):	
L-Glutamic acid	683,0 mg
L-Leucine (BCAA)*	414,9 mg
L-Asparatic acid	403,4 mg
L-Lysine*	364,1 mg
L-Threonine*	266,8 mg
L-Valine (BCAA)*	224,3 mg
L-Proline	225,5 mg
L-Isoceuline (BCAA)*	220,2 mg
L-Serine	195,0 mg
L-Alanine	191,9 mg
L-Phenylalaline*	120,4 mg
I-Tyrosine	111,7 mg
I-Arginine	106,4 mg
L-Methionine*	88,0 mg
L-Cysteine	80,8 mg
L-Glycine	70,4 mg
L-Histidine*	68,3 mg
L-Tryptophan*	64,3 mg

* Essential amino acids. BCAA: Branched-chain amino acid.

Size and format:

240 tablets

Recommended daily dose:

2 tablets three times daily between meals.

Consult a health-care practitioner for use beyond 6 months.

Do not exceed the stated recommended daily dose.

Indications and uses:

Athletes undergoing high levels of activity and muscle wear.

Recovery during and after disease.

Vegetarian diets or diets with limited protein intake.

Cautions:

The intake is not recommended in case of a known allergy to cow's milk. Consult a health-care practitioner prior to use this product if you are pregnant or breast-feeding or if you have a special medical condition (liver or kidney disease).

Around 80% of amino acids are produced in the liver; the remaining 20%, the so-called essential amino acids, must be obtained through food. During digestion, proteins are broken down into amino acids with the help of enzymes and gastric juices and are transformed into the body's own protein groups. For proteins to be used correctly, all 8 essential amino acids must be present in the correct proportion.

The lack of just one amino acid weakens the effect of the rest. If amino acids are lacking, proper uptake of vitamins and minerals isn't guaranteed. A lack of tyrosine can lead to iron insufficiency. The lack of tryptophan, phenylalanine or histidine can lead to neurological alterations and depression. Amino acids are also transformed into glucose, so they play an important role in energy metabolism, and are a good way to fight tiredness and fatigue and have energy during the day. For this reason, a low level of amino acids often manifests as tiredness and low energy.

NON-ESSENTIAL AMINO ACIDS: amino acids that our body can make or synthesize:

L-GLUTAMIC ACID: a non-essential amino acid considered to be food for the brain, it helps ulcers heal faster, eliminates fatigue, helps control alcoholism, schizophrenia and prostate problems. It can raise the production of different neurotransmitters and maintain healthy intestines. It repairs damage caused by colitis and irritable bowel syndrome. It improves the immune system, repairs intestinal mucosa and maintains healthy gastric mucosa. It's useful for bowel diseases. It helps combat free radicals and toxic substances. It protects the eyes and is good for cataracts, heart disease, diabetes and high blood pressure. It improves problems such as arthritis, allergies and inflammation ⁽¹⁾.

L-ARGININE: helps to heal wounds, eliminate excess ammonia from the body and stimulate the immune system. It favours the secretion of hormones like insulin and growth hormone. It helps define muscles in athletes and is an important fat-burner. It has been proposed for the treatment of several cardiovascular problems such as cardiac arrest and intermittent claudication. It favours T cell production ⁽²⁾.

L-SERINE: catalyses a reaction to homocysteine, which is important for the nervous and immune systems. It is needed for the correct metabolism of fat and fatty acids, muscle growth, and healthy immune system maintenance. L-serine is an amino acid that forms part of the protective myelin sheath covering nerve fibers. It's important for proper RNA and DNA function, cell formation and the production of immunoglobulin and antibodies ^(3,4).

L-ALANINE: is found in high concentrations in muscle tissue. It helps metabolize sugar and organic acids. It stimulates antibody production and stabilizes glucose levels in people with hypoglycaemia. It is found in prostate fluid and plays an important role in prostate health ^(2,5).

L-TYROSINE: is necessary for the production of neurotransmitters. A deficiency can lead to excess weight, cold hands and feet and decreased basal metabolism. It stimulates melanin, the pigment in hair and skin, improves circulation of the scalp and favours hair growth. It guarantees well-being, and helps combat stress and anxiety. It prevents depression, favours appropriate adrenal function, treats mouth and gum infections and chronic fatigue syndrome, regulates insulin levels and favours healthy sleep and libido ⁽⁶⁾.

L-CYSTEINE: fundamental for skin and hair health ⁽⁷⁾.

L-GLYCINE: antioxidant cell protector. It is present in prostate liquid. It's useful for schizophrenia and plays an important role in mental function and memory ⁽⁸⁾. It can be helpful for wound healing and can prevent epileptic attacks, reduce stomach acidity, prevent multiple sclerosis and boost the immune system. It offers renal and hepatic protection ⁽⁹⁾.

ASPARTIC ACID: important for central nervous system (CNS) processes and the synthesis of ammonia. It increases resistance and is good for chronic fatigue and depression. It rejuvenates cell activity, cell formation and metabolism, and offers a more youthful appearance. It protects the liver, helps expel ammonia and combines with other amino acids in order to form molecules that absorb toxins and carry them out of the bloodstream. This amino acid also helps facilitate the circulation of certain minerals through the intestinal mucosa into the blood and cells, and aids the function of RNA and DNA, the carriers of genetic information ^(9,10).

L-PROLINE: works on connective and bone tissue, important for appropriate joint and tendon function. It improves skin texture by helping with collagen production and reducing collagen loss during the aging process. Additionally, proline helps heal cartilage and strengthen joints and tendons and the muscles of the heart. Proline works with vitamin C to help maintain healthy connective tissues ⁽²⁾.

ESSENTIAL AMINO ACIDS: a lack of amino acids limits development, since without them the body cannot replace tissue cells when they die, create new tissue or digest food, among many other basic functions:

L-LEUCINE: essential for human nutrition, it forms part of the genetic code. It helps regulate blood sugar levels, muscle tissue growth and repair, hormone production and wound healing. It helps process the amino acid phenylalanine. Its deficiency has been seen in vegetarians. It is normally found in hepatic cells. It is essential for optimal growth in children and for nitrogen balance in adults. ^(11,12).

L-THREONINE: helps maintain the appropriate amount of proteins in the body, it is important for the formation of collagen, elastin and tooth enamel, and helps with liver lipotropic function when combined with aspartic acid and methionine. It prevents the accumulation of fat in the liver, aiding in its metabolism and assimilation ⁽²⁾.

L-LYSINE: one of the most important amino acids, it intervenes in functions such as tissue growth and repair. It collaborates in the synthesis of antibodies and hormones and plays a role in calcium absorption and the production of antibodies against the herpes virus ⁽³⁾.

L-ISOLEUCINE: together with leucine and growth hormone, it intervenes in the formation and repair of muscle tissue. It acts on the formation of haemoglobin and regulates blood sugar levels ^(9,13).

L-VALINE: a neutral amino acid that forms part of the genetic code. It favours muscle recovery after exercise. It helps with wound healing and new tissue growth. A deficiency can affect the myelin sheath covering the nerves ⁽¹⁵⁾.

The three branched-chain amino acids (lysine, isoleucine and valine) are particularly important due to their capacity to provide the body approximately 70% of its nitrogen requirements. Studies have shown that a scarcity of branched-chain amino acids, along with an increase in physical demand, can lead to cannibalization of muscle tissue in order to meet to the body's need for nitrogen ^(2,14).

L-PHENYLALANINE: produces noradrenaline, the substance responsible for nerve cell transmission in the brain. Additionally, it uplifts mood, decreases pain, helps with memory and learning, and is used to treat arthritis, depression, menstrual cramps, headaches, obesity, Parkinson's disease and schizophrenia ⁽¹⁵⁾.

L-METHIONINE: pertains to a group of compounds called lipotropics, or chemical substances that help the liver process fat (lipids). It's absolutely necessary for healthy skin, tendons and ligaments. This amino acid is required for the formation of collagen and connective tissue. The need for this amino acid is greater during periods of growth and development (childhood, adolescence, pregnancy) and when recovering from injury. Additionally, it neutralizes compounds that are damaging to the liver such as toxins, free radicals and metabolic and hormonal waste products ⁽¹⁶⁾.

L-TRYPTOPHAN: acts as a natural relaxant and helps relieve insomnia, inducing normal sleep, reducing anxiety and depression and stabilizing mood. It is used for treating migraines and helps ensure proper function of the immune system. Tryptophan helps with weight control by reducing appetite and it increases the release of growth hormones ⁽⁴⁾.

L-HISTIDINE: a semi-essential amino acid. Adults produce a certain amount but children do not. It's a precursor to histamine, the substance released by immune cells during an allergic reaction. It possesses mild anti-inflammatory properties, and enhances physical strength and mobility among those with rheumatoid arthritis. It favours the elimination of heavy metals and is useful for problems of impotence or frigidity. It stimulates red blood cell production. It improves digestion upon increasing the production of gastric juices and relieves gastric ulcers ⁽²⁾.

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