



## Free Amino Acids (with Magnesium and L-carnitine) Stock #3664-6 (60 tablets)

NSP's Free Amino Acids assists in developing muscle strength and stamina and is ideal for the individual with a limited dietary intake of protein. This fitness formula contains free amino acids, whey protein hydrolysate (supplying free amino acids and peptides), magnesium salts, and L-carnitine. Free Amino Acids is recommended for athletic individuals desiring to increase muscle mass and stamina, and for those desiring to improve and sustain greater energy levels and endurance.

**Free amino acids** are isolated amino acids which have been separated from other food factors. Free amino acids do not have to be digested and broken down by the body, meaning they are available for immediate use. Amino acids are the compounds from which proteins are constructed and are the result of protein digestion. Amino acids are necessary for the synthesis of all body proteins and other tissue constituents, including muscle tissues.

The body requires 8 amino acids, called essential amino acids, in order to properly synthesize needed proteins. Free amino acids are reportedly now part of the astronauts' diet because the body so efficiently uses this form of amino acids.

**L-carnitine** plays a vital role in fat metabolism in muscles, the heart, and other organs, and is an important nutrient for heart health, weight loss, and for improving athletic ability. The *New England Journal of Medicine* confirms L-carnitine is essential for breaking down fatty acids and releasing stored fat (triglycerides) into the bloodstream for use in cellular energy production. L-carnitine supplementation has been found to help regulate heart arrhythmias, increase the body's resistance to stress, and improve the body's tolerance for exercise.

**Magnesium** is a vital element of the body, being concentrated primarily in bones and within each cell. Magnesium is essential for every important biological function, including glucose metabolism, production of cellular energy, manufacturing of nucleic acids and proteins, and stimulation of enzyme functions associated with proper amino acid and carbohydrate metabolism. Magnesium helps preserve the electrical balance of cells, membrane integrity, muscle contraction, nerve conduction, and venous health. It plays an important role, together with calcium, in balancing the production of cellular energy. Magnesium has also been shown to improve endurance and physical performance. Studies done in Sweden with well-trained athletes showed that those who received a magnesium and potassium supplement before going through an exercise stress test experienced a 50% increase in their endurance.

**Whey protein hydrolysates**, derived from milk, are an additional source of free amino acids and short-chain peptides—small groups of amino acids—which the body can easily absorb.

NSP uses naturally-occurring amino acids obtained from lactalbumin, an easily digested milk protein. Free Amino Acids provides the following 8 essential (not produced by the body) amino acids, present in a ratio for optimum use by the body, according to standards set by the Food and Agricultural Organization/World Health Organization:

**Isoleucine** is necessary for optimal growth and development of intelligence, and nitrogen equilibrium in the body. It is also used to synthesize other non-essential amino acids.

**Leucine** stimulates brain function and improves muscular energy levels.

**Lysine** is a building-block of blood antibodies, promotes normal cell growth, and strengthens the circulatory system.

**Methionine** is a fat and lipid metabolizing (lipotropic) agent, necessary for maintaining liver health. It also helps calm the nerves.

**Phenylalanine** is necessary for the production of thyroxin, produced by the thyroid, which regulates metabolism.

**Threonine** enhances digestive assimilation and intestinal function.

**Tryptophane** improves the utilization of B vitamins, enhances nerve health, and maintains stability of the emotion, promoting calmness.

**Valine** increases mental capacity and muscle coordination