



Why Are Amino Acids Important?

Amino Acids are the chemical units or "building blocks" of all protein in our body.^[1] Protein itself is the major constituents of muscle tissues, tendons, organs, glands, nails, collagen and hair of our body. Growth, repair and maintenance of all cells also depend upon them.

Symptoms of Amino Acid Deficiency

Imbalance diet causing amino acid deficiency has been shown to cause adverse effects on the brain, leading to attention deficiency and depression and may also harm the immune system, resulting in higher risk of infections.^[1] Insufficient supply of amino acids would disrupt production of vital functional and structural proteins and affect organ functions. In serious cases, it would lead to organ dysfunction.

Essential Amino Acids Must Come From A Diet

Twenty amino acids are needed to build different types of proteins in human body.^[2] Eleven of these amino acids can be made by the body itself, while the other nine (called essential amino acids) cannot be synthesized in adequate amounts and must be obtained from diet. Comprehensive amino acids supplement could provide the major essential amino acids and non-essential amino acids to ensure our body to have sufficient protein for growth, repair and energy.

Essential Amino Acids

Isoleucine, Leucine and Valine help to enhance energy, increase endurance, and aid in muscle tissue recovery and repair.^[3] This group also helps relieve mental fatigue and improve cognitive performance.^[4]

Lysine is especially needed for adequate calcium absorption and bone development in children.^[5,6] It also aids in the production of hormones & enzymes in our body to maintain resistance against infections.^[6]

Methionine is a principle supplier of sulfur, which inactivates free radicals.^[7] Adequate methionine helps to promote healthy hair, skin and nail condition. Together with **Threonine**, they are vital in fat and lipid metabolism which is important in keeping our liver healthy.^[8,9]

Phenylalanine is needed for neurotransmitter formation in brain.^[10] It may help promote alertness, elevate our mood, aid in memory and learning.

Nonessential Amino Acids

Arginine significantly contributes to antioxidation. Research has shown that arginine supplementation could improve glucose metabolism and insulin sensitivity^[11] while also relieving airway discomfort.^[12] It is also needed for motility of sperm cells.^[13]

Cysteine is a critical component for maintaining protein structure and activity of enzyme catalytic sites.^[14] It is also a powerful free radical destroyer that helps protect the body from oxidative damage.^[14] Decreased level of cysteine during the aging process has been associated with various pathological conditions.^[15]

Tyrosine is the precursor of the neurotransmitters serotonin and dopamine, also known as "the happy hormone".^[10] It could improve endurance capacity during physical exercise.^[16] It is also the precursor of norepinephrine which stimulate production of heat from body fat tissue.^[17]

Histidine is found abundantly in red blood cells and it facilitates uptake of zinc into blood cells.^[18] Histidine is also a component of the myelin sheaths which protect nerve cells.^[19]

Ornithine participates in the release of growth hormone and anabolic hormones, which then prompts muscle synthesis and promotes wound healing and tissue repair.^[20]

Benefits of Amino acid supplements:

- Formation of hormones, enzymes and antibodies^[6,10,14]
- Relieve stress and mental fatigue^[4,10]
- Improve memory and cognitive performance^[4,10]
- Energetic and improve endurance^[16]
- Strong antioxidant^[7,11,14]
- Maintain healthy hair, skin, nail, nerve and liver^[7-9,19,20]
- Promote muscle tissue formation and recovery^[3,6,20]
- Improve sperm motility^[13]
- Relieve airway discomfort^[12]
- Heat production from fat metabolism^[17]

Recommended daily dose: Please consult your family doctor.

This product is not registered under the Pharmacy and Poisons Ordinance or the Chinese Medicine Ordinance. Any claim made for it has not been subject to evaluation for such registration. This product is not intended to diagnose, treat or prevent any disease.

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