

AMINO ACID GUIDE

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L-Alanine

used as body fuel by tissues of the brain, nervous system and muscle; important in converting energy to stored energy in the body's Krebs energy cycle; glycogenic (energy storage source of glucose by the liver and muscles); important nitrogen quality for post-injury states; builds up the immune system, producing immunoglobulins and antibodies; metabolizes sugars and organic acids.

L-Arginine

indispensable for optimum growth; stimulates the release of growth hormone; important to muscle metabolism, acts as a vehicle for transport, storage and excretion of nitrogen; increases muscle mass while decreasing the amount of body fat; plays an important role in post-injury problems such as weight changes, nitrogen balance and tissue healing; increases collagen, the main supportive fibrous protein found in bone, cartilage and other connective tissue; stimulates the immune system; combats physical and mental fatigue; increases spermatogenesis; used in the treatment of hepatic (liver) disorders; transforms to L-Ornithine and urea; promotes the detoxification of ammonia which is poisonous to living cells.

L-Aspartic Acid

increases resistance to fatigue; involved in the formation of RNA and DNA, the chemical bases of heredity and carriers of genetic information; salts of aspartic acid increase stamina and endurance; protects the liver and promotes normal cell function; builds up the immune system, producing immunoglobulins and antibodies.

L-Citrulline

helps recovery from fatigue; stimulates the immune system, therefore, beneficial in the presence of any illness, disease, traumatic injury or wound; metabolizes to L-Arginine; detoxifies ammonia which is poisonous to living cells.

L-Cysteine

found to increase hair growth by as much as 100%; helps prevent damages from the ill effects of cigarette smoke; detoxifies many harmful chemicals; helpful in the treatment of rheumatoid arthritis; promotes healing and the immune system.

L-Cystine

essential for the formation of skin and hair; promotes recovery from surgical operations and burns; used in the treatment of respiratory disorders such as chronic bronchitis; stimulates white blood cell activity in the immune system necessary for the resistance to disease.

L-Glutamic Acid

especially important in brain metabolism; functions as a brain fuel serving as an excitatory neurotransmitter; transports potassium across the blood brain barrier; combines to form L-Glutamine and in the process picks up ammonia radicals, this is the only method the brain has of detoxifying ammonia; instrumental in the metabolism of other amino acids; metabolizes sugars and fats; increases the blood sugar level, used in the treatment of hypoglycemia.

L-Glutamine

sustains mental ability; involved with brain metabolism; along with L-Glutamic Acid is used as a brain fuel; used in the treatment of alcoholism, can protect against alcohol poisoning; has been used in the treatment of schizophrenia and senility.

Glycine

of special value as a source of creatine which is essential for muscle function, breaking down glycogen and freeing energy; produces glucon which mobilizes glycogen (a stored energy source of glucose) from the liver; builds up the immune system, producing immunoglobulins and antibodies; acts as a nitrogen pool for the synthesis of nonessential amino acids; effective for hyperacidity; used in the treatment of rheumatoid arthritis.

used in the treatment of allergic diseases; used in the treatment of rheumatoid arthritis; effective in the treatment of ulcers of the digestive organs; important in the production of red and white blood cells.

L-Isoleucine*

primarily metabolized in muscle tissue; essential to the formation of hemoglobin; should always be in well-balanced proportion with L-Leucine and L-Valine.

L-Lysine*

inhibits the growth of viruses; used in the treatment of herpes simplex virus; produces L-Carnitine which improves stress tolerance and fat metabolism and has an anti-fatigue effect; promotes bone growth by helping to form collagen, the fibrous protein which makes up bone, cartilage and other connective tissue; aids in the absorption of calcium.

L-Methionine*

is lipotropic, preventing excessive fat buildup in the liver; helps prevent premature hair loss; interacts with other body substances to detoxify harmful compounds; is included in nutritional supplementation as an anti-fatigue agent.

L-Ornithine

stimulates the release of growth hormone which increases muscle mass while decreasing the amount of body fat; helps build up the immune system; promotes liver function and regeneration; important in the formation of urea, detoxifying ammonia which is poisonous to living cells; promotes healing.

L-Proline

extremely important for the proper function of joints and tendons, as well as good heart muscles; glycogenic (energy storage source of glucose by the liver and muscles); a major constituent of collagen, the main fibrous protein found in bone, cartilage and other connective tissues.

L-Phenylalanine*

produces and maintains an elevated and positive mood, alertness and ambition; enhances learning and memory; produces neurotransmitters which control impulse transmission between nerve cells; is involved in dopamine transmission; used in the treatment of certain types of depression; suppresses appetite.

L-Serine

glycogenic (energy storage source of glucose by the liver and muscles); builds up the immune system, producing immunoglobulins and antibodies.

Taurine

found in high concentrations in the tissues of the heart, skeletal muscle and central nervous system; used to treat some forms of epilepsy by controlling seizures.

L-Threonine*

is lipotropic, preventing fatty buildup in the liver; glycogenic (energy storage source of glucose by the liver and muscles); essential to normal growth; generally low in vegetarian diets; builds up the immune system, producing immunoglobulins and antibodies; is an important constituent of collagen and elastin proteins.

L-Tryptophan*

used by the brain to produce the neurotransmitter serotonin which results in a calming effect; used in the treatment of insomnia, stress, anxiety and depression; stimulates the release of growth hormone which burns body fat and acts as an aid in weight control; used in the treatment of migraines.

L-Tyrosine

plays an important role in the function of the adrenal, pituitary and thyroid glands; generates red and white blood cells; elevates mood; is used in the treatment of anxiety, depression and insomnia; produces Melanin, the skin and hair pigment; produces norepinephrine, an appetite inhibitory neurotransmitter that suppresses appetite; stimulates the release of growth hormone which causes muscle growth and reduces body

glycogenic (energy storage source of glucose by the liver and the muscles); metabolized in muscle; should always be in well balanced proportion with L-Leucine and L-Isoleucine; used in the treatment of severe amino acid deficiencies caused by addictions.