Ornithine is a non-essential amino acid not found in proteins. It is produced in the body in the form of arginine and serves as a precursor to Citruline, Proline and Glutamine Acid. Lysine, an antagonist of Arginine, also prevents the uptake of Ornithine. Ornithine helps to prompt the release of growth hormone, insulin and other hormones, which promotes the metabolization of excess body fat. The effect is enhanced when combined with Arginine and Carnitine. A major difference between Ornithine and Arginine is that Ornithine actually enters the cell whereas Arginine does not. Ornithine produces the same benefits as Arginine, but is twice as effective. Ornithine is not used by the construction of structural proteins or enzymes, but acts as a stimulator or sorts. Ornithine and Arginine are converted one to the other in the urea cycle. A substance called purines is manufactured in the body or found in foods, particularly organ meats. When purines is metabolized uric acid is formed. Uric acid is the final breakdown product of purines, and needs to excreted via the kidneys. An increased concentration of uric acid results in gout, a common type arthritis, causing pain in joints, tendons kidneys and other tissues. It is effective against arthritis that is caused by an auto-immune mechanism due to the inadequate activity of T-suppressor white cells.

Ornithine is also necessary for proper immune system and liver function. It detoxifies ammonia and aids in liver regeneration causing the liver to increase the rate of fat burning. It may improve the body’s resistance to many viral and bacterial diseases including the flu, and is also thought to be effective in reducing cholesterol and fatty deposits in arteries. Knowing this, Ornithine could be a benefit against atherosclerosis, stroke, and other forms of heart disease.

Heavy concentrations of Ornithine are found in the skin and connective tissues making it useful for promoting healing and repairing damaged skin. It stimulates wound healing by causing the pituitary gland to release growth hormone.

Fat burning can also be influenced by insulin and in turn is influenced by Ornithine. It acts on the central nervous system to release growth hormone, and acts as a regulating mechanism to enhance amino acids in protein. Ornithine also facilitates the secretion of insulin that requires amino acids for protein production.

Seizures have been reported to occur with high levels of Ornithine. Low levels of Ornithine may indicate growth defects and delayed maturation. Ornithine has been suggested to produce increased motility of sperm in human sperm during test tube studies.

In the brain, gyrate atrophy, a rare condition occurs with high Ornithine levels and can be treated by low-Arginine diets or creatine supplements. In this disease, the retina of the eye is effected and the visual field decreases. Cataracts, loss of visual sharpness and night blindness occur. These symptoms begin around the age of ten to fifteen, and are caused by excessive Ornithine. Arginine and Ornithine must both be avoided since these amino acids are rapidly interchangeable.

Some experts have claimed that Ornithine promotes muscle-building activity in the body, when used in combination with Glutamine to form Ornithine alpha-ketoglutarate (OAG), but subsequent research has not supported these claims.

**SUGGESTED USE**

Almost all recommendations given for therapeutic uses of Arginine probably also apply to Ornithine. Ornithine is metabolized efficiently with co-factors such as manganese, magnesium, vitamin B6 and zinc. Two parts of Arginine to one part Ornithine on an empty stomach at bedtime works during the night to
release growth hormone by the pituitary gland. It may cause insomnia in some people at doses of 1,000 milligrams or more. Ornithine may increase the severity of symptoms in some schizophrenics. Ornithine is NOT recommended for children, pregnant women, nursing mothers, or anyone with a history of schizophrenia.

SOURCES OF ORNITHINE:
Foods high in Ornithine: carob, chocolate, coconut, dairy products, gelatin, meats oats, peanuts, soybeans, walnuts, white flour, wheat, and wheat germ.

REFERENCES:
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