



## L-Lysine

### Overview

L-lysine is an essential amino acid and is one of the key building blocks of muscle tissue. The human body is not able to synthesize lysine; hence, it needs to be acquired through diet or pharmaceutical supplementation. Besides being essential for regular growth, this important amino acid participates in various vital biological processes like proteinogenesis, crosslinking of collagen polypeptides, uptake of essential mineral nutrients, and in the production of carnitine. Carnitine is established to play a crucial role in energy production by transporting long-chain fatty acids into the mitochondria and generating toxic compounds out of the cell.

L-lysine can improve calcium absorption as well as collagen quality and muscle well-being in general and has helped patients suffering from osteoporosis. It contributes to a positive calcium balance by boosting intestinal calcium absorption and improving the renal conservation of the absorbed calcium. L-lysine has also been suggested to be used in combination with minocycline hydrochloride, and metronidazole to treat reactive arthritis or bursitis.

### Other Uses

Usage of L-lysine independently as well as in compounded form has been reported for nephroprotection when radioactive therapy is conducted especially against cancer. Treatment with L-lysine HCl has also been reported to be well tolerated and showed a significant decrease in positive symptoms of schizophrenia and treatment of Herpes simplex I and II infections.

### Side Effects

L-lysine hydrochloride has been proven to be safe as per most clinical studies with only mild side effects. Patients with cardiovascular or gallbladder disease should exercise caution in supplementation of lysine. Its long-term use can cause arginine deficiency.