AOR CODE: AOR04056

Premium

L-Lysine

Fights Cold Sores and Boosts Immunity

- An essential amino acid
- Supports the body's muscles, bones and skin by promoting collagen production
- Helps maintain energy levels
- Provides a clinically effective dose

Gluten Free  Vegan  Non-GMO  Cold Sores Immunity

AOR Code  Variant
AOR04056  150 VEGI-CAPS

Details

L-lysine is an essential amino acid that is important for many biological functions, such as immunity, energy production and muscle growth. Since it is naturally abundant in high protein foods such as meat, eggs, beans and legumes, those most likely to suffer from deficiency are vegetarians or vegans who consume a diet low in legumes and high in grain-based foods.

One of the most common uses for supplemental L-lysine is for preventing cold sores caused by the Herpes Simplex virus. It does this in three different ways: by preventing infection with the virus, reducing the risk of developing cold sores in those with the virus and speeding up the recovery after cold sores develop. Lysine inhibits replication of the herpes virus that causes the visible outbreaks and pain, itching and sores around the lips. It interferes with the absorption of the amino acid arginine, which the herpes virus uses to replicate. Without arginine, the virus cannot be fully functional which allows the body to heal quicker and reduce the possibility of recurrence.

Lysine also supports bodybuilding and muscle growth and helps maintain carnitine levels, an important factor in energy and aging. Lysine supports bone health by ensuring the proper absorption of calcium and helping to form collagen that makes up bone cartilage and connective tissues. Finally, supplementation with lysine has been shown to reduce mood imbalances and even cortisol levels in those who consume low amounts of lysine.

Label Info
Discussion
L-Lysine is an essential amino acid. L-Lysine helps to reduce the recurrence, severity and healing time of cold sores.

Product Variation
Product Code  Size
AOR04056  150 VEGI-CAPS

Supplements Facts
Serving Size: 1 Capsule  Amount
L-Lysine  500 mg

Produced from biofermentation

Non-medical ingredients:
- microcrystalline cellulose, sodium stearyl fumarate, silicon dioxide. Capsule: hypromellose.

Guarantees
AOR™ guarantees that all ingredients have been declared on the label. Contains no wheat, gluten, nuts, peanuts, sesame seeds, sulphites, mustard, soy, dairy, eggs, fish, shellfish or any animal byproduct.

Adult Dosage
Take 2 capsules three times daily for up to 6 months, or as directed by a qualified health care practitioner.

Cautions
Consult a health care practitioner if symptoms persist. Do not use if pregnant or breastfeeding.

Source
Biofermentation

Main Application
Cold sores
Immunity
Amino acid support

Disclaimer
medical advice to individuals from a qualified health care professional. Consult with your physician if you have any health concerns, and before initiating any new diet, exercise, supplement, or other lifestyle changes.
Research

Background

An Essential Amino Acid

While it is common knowledge that we all need protein to grow and maintain muscles, what is less well known is the variety of vital roles that amino acids, the building blocks of these proteins, play in our bodies.

L-Lysine is one such amino acid. One of the nine essential amino acids that the body cannot produce on its own, L-Lysine must be obtained by dietary means or else the body will go deficient. For most people, deficiency is rare, as L-Lysine is found in significant amounts in several common foods, such as legumes, dairy, fish and meat. Those most likely to suffer from deficiency are vegetarians who do not consume enough legumes or individuals who consume a diet high in cereals and baked goods, as L-Lysine is involved in caramelization, the process that causes baked goods to turn brown.

During caramelization, L-Lysine becomes linked with sugars in a way that makes it difficult for the body to absorb. This linkage results in the creation of Advanced Glycation End products (AGEs), which form at the extremities of the nerve growth tissues and lead to the stiffening of such tissues. AGEs are closely associated with the aging process as well as the more common complications of having poor blood sugar control.

Functions

Like many amino acids, L-Lysine has multiple functions in the body because it is incorporated into many proteins that are used by the body for a variety of purposes. Despite the rarity of deficiency, supplementation has still proven useful to treat herpes and cold sores, augment body-building and growth, as well as maintain carnitine levels, an important factor in energy and aging. Lysine also supports bone health by insuring the adequate absorption of calcium and helping to form collagen that makes up bone cartilage and connective tissues. A deficiency of Lysine has been found to cause tiredness, lack of concentration, irritability, hair loss, anemia and reproductive problems. It has also been reported that too little lysine in a diet can result in kidney stones.

Herpes and Cold Sores

One common use for L-Lysine is the treatment of herpes and cold sores. It is thought that L-Lysine’s usefulness in the latter is based on its ability to impede the utilization of L-arginine by some lipid-coated viruses. These viruses are therefore prevented from using L-arginine during key phases in their life cycle, thus weakening them and allowing the body to heal quicker and reduce the possibility of recurrence. However, the research into the use of L-Lysine to treat herpes is somewhat contradictory and patients themselves sometimes report ambivalent results. Some physicians have reported effective results with L-lysine in the treatment of a particular type of a herpes virus known as varicella-zoster, or shingles. L-lysine is found to be especially effective in this role when combined with a prescription antiviral medication such as acyclovir (ZoviraxTM) or valcyclovir (ValtrexTM).

Body-Building Nutrient

Along with the other essential amino acids, L-Lysine works to maintain growth, lean body mass, and the body’s stores of nitrogen. It is also important in the production of hormones, enzymes, and
antibodies. Consequently, it can be an important factor in recovery time following surgery or injury. As a result, lysine has become an increasingly common addition to parenteral formulations as part of post-operative analgesia in hospitals. It is also commonly used as a body-building supplement to assist in the accumulation of lean muscle tissue and to help maintain a positive nitrogen balance.

**Bone-Building Nutrient**

Since L-Lysine is needed by the body in order for it to properly absorb and conserve calcium, some researchers believe that it may have a role in the prevention and treatment of osteoporosis, or simply to augment the growth and development of strong bones. The reason for this is simple. As calcium is required to grow and maintain bones, it serves to follow that a substance that allows the body to utilize the calcium it absorbs will be necessary to build and maintain bones. L-Lysine also helps to produce collagen, a substance important not only for bones, but also for connective tissues, including the skin, tendons, and cartilage. The end result is that L-Lysine has a directly pertinent role to play in skeletal and tendon health.

**Energy and Aging**

L-Lysine (along with L-methionine) plays an important role in the production of carnitine, a ‘non-essential’ amino acid which is responsible for converting fatty acids into energy. Carnitine is needed to bring long-chained fatty acids into the body’s mitochondria – its ‘cellular power-plants’ – and similarly to bring short-chained fatty acids to exit the mitochondria across the mitochondrial membrane. Carnitine also plays an important part of the aging process, since its ability to carry fatty acids across the mitochondrial membrane can revitalize the body’s mitochondria itself, thus significantly slowing age-related decline. Furthermore, the aging process progressively diminishes the body’s ability to synthesize carnitine, providing additional justification for L-lysine supplementation.

**Research**

**Anxiety**

L-lysine has been proven to reduce levels of chronic anxiety in those who have low dietary intakes of the amino acid. A double-blind, placebo controlled and randomized study including one hundred and eighty healthy Japanese adults were given a week-long oral treatment with L-lysine (2.64 g per day) and L-arginine (2.64 g per day) to access whether or not the treatment could normal hormonal stress responses in persons with high trait anxiety. In was confirmed that in both sexes, the treatment with these amino acids caused a significant reduction in both trait and state anxiety as well as decreasing the basal levels of salivary cortisol and chromogranin-A (a salivary marker of the sympatho-adrenal system) in male subjects.

**Cold Sores**

L-Lysine is mainly thought to reduce the recurrence of cold sore or herpes outbreaks, although its effect on severity and duration of symptoms is debatable. One 6-month study found that recurrence, severity and duration were all significantly reduced with a minimal dose of 1,248mg of lysine per day. However, in shorter studies, such as 12 weeks long, severity and duration have not always been significantly decreased. L-lysine is found to be especially effective when combined with a prescription
antiviral medication such as acyclovir (Zovirax™) or valcyclovir (Valtrex™).

**Safety and Side-Effects**

Generally, L-Lysine is incredibly safe. Conventional dosages of L-Lysine supplementation (3-6 grams daily) haven’t been reported to cause any problems in humans. Many of the treatment dosages for herpes and cold sores are as low as approximately one gram a day in three divided doses. Problems do not seem to appear until intakes reach very high levels (15-40 grams daily) and even these dosages produce only isolated reports of abdominal cramps and transient diarrhea. Doses of that quantity have also been associated with the possibility of increasing the toxicity of aminoglycoside antibiotics such as gentamicin, neomycin and streptomycin.

**Market Trends**

L-lysine is most commonly found in combination with other amino acid supplements. It is also frequently used in natural formulas to heal cold sores, for body building benefits and for enhancement of immune function.

**AOR Advantage**

AOR’s L-Lysine offers an effective dosage of this essential amino acid and is considered very safe to use.

**References**


Griffith RS, Walsh DE, Myrmel KH, Thompson RW, Behforooz A. Success of L-lysine therapy in frequently recurrent herpes simplex infection. Treatment and prophylaxis. Dermatologica 1987;175:183-90.


Abstract

Oral treatment with L-lysine and L-arginine reduces anxiety and basal cortisol levels in healthy humans.


Smriga M, Ando T, Akutsu M, Furukawa Y, Miwa K, Morinaga Y.

Dietary supplementation with an essential amino acid L-lysine has been shown to reduce chronic anxiety in humans with low dietary intake of L-lysine. A combination of L-lysine and L-arginine has been documented to normalize hormonal stress responses in humans with high trait anxiety. The present study was carried out in one hundred eight healthy Japanese adults. The aim of study was to find out whether a week-long oral treatment with L-lysine (2.64 g per day) and L-arginine (2.64 g per day) reduces trait and stress-induced state anxiety and basal levels of stress hormones. We confirmed that, without regard to gender, the amino acid treatment significantly reduced both trait anxiety and state anxiety induced by cognitive stress battery. In addition, we found that the treatment with L-lysine and L-arginine decreased the basal levels of salivary cortisol and chromogranin-A (a salivary marker of the sympatho-adrenal system) in male subjects. These results of this double-blind, placebo controlled and randomized study confirm the previous findings in humans and animals and point to a combination of L-lysine and L-arginine as a potentially useful dietary intervention in otherwise healthy humans with high subjective levels of mental stress and anxiety.

Long-term oral lysine supplementation in lysinuric protein intolerance.

Metabolism. 2007 Feb;56(2):185-9.


In lysinuric protein intolerance (LPI), defective transport of cationic amino acids at the basolateral membrane of the polar epithelial cells in the intestine and renal tubules leads to decreased intestinal absorption and excessive renal loss of lysine, arginine, and ornithine. Citrulline supplementation partially restores the function of the urea cycle that is impaired by deficiency of arginine and ornithine, but does not correct the chronic lysine deficiency. Previous attempts to supplement lysine orally have been hindered by profuse diarrhea, probably caused by excess lysine remaining unabsorbed in the gut. However, individually adjusted minute doses of L-lysine hydrochloride at mealtimes are tolerated well, but the long-term benefits of this therapy remain unknown. The aim of the study was to investigate the long-term benefits and possible adverse effects of oral lysine supplementation in patients with LPI. Supplementation of meals with low doses of oral lysine improved fasting plasma lysine concentrations in 27 Finnish patients with LPI without causing hyperammonemia or other recognizable side effects during 12 months of follow-up. In conclusion, low-dose oral lysine supplementation is potentially beneficial to patients with LPI and can be started safely at an early age.