

Magnesium Citrate

Key Lime

NPN 80087359

RESEARCH INFORMATION

Feature summary

Natural Factors Magnesium Citrate contains high-quality magnesium citrate in a delicious sugar-free key lime-flavoured chewable tablet. This new one-per-day formula provides 150 mg of bioavailable magnesium citrate to help you meet your daily magnesium requirements.

Magnesium is often known as a relaxation mineral, but it is also an essential nutrient needed for hundreds of other biochemical processes throughout the body. It is critical to the development and maintenance of bones and teeth, as well as the metabolism of carbohydrates, proteins, and fats. Magnesium is also needed to maintain normal electrolyte balance and proper muscle function, including the heart muscle.

Many Canadians are deficient in magnesium, making supplementation an ever-important option. Magnesium Citrate 150 mg is a suitable choice for people who would like a daily supplemental source of magnesium, suffer from muscle cramps, or want to improve bone density, sleep and relaxation. The easy-to-take chewable tablets are sweetened with tooth-friendly xylitol, and an enjoyable format for anyone with difficulty swallowing pills.

How it works

More than half of the body's magnesium is stored within the bones. It is an important component of bone mineralization and structure, which contributes to the development and maintenance of bones and teeth. When serum magnesium levels are low, the body draws from magnesium stored in the bones to compensate.

Magnesium affects muscle function and skeletal muscle mass through its role in protein and fat metabolism, ATP synthesis, and easing inflammatory response. It helps stabilize the structure of proteins and DNA, and is needed as a cofactor for enzymes to catalyze DNA and RNA synthesis.

As an electrolyte, magnesium is needed to regulate the movement of minerals, such as sodium, potassium, and calcium, in and out of cells. This affects nerve impulses, regulates muscle contractions, and prevents cramping. It helps control heart rhythm and promotes regularity by modulating the contraction and relaxation of intestinal muscles.

Magnesium is also involved in converting carbohydrates, proteins, and fats into cellular energy as adenosine triphosphate (ATP). Its role in the central nervous system involves regulating neurotransmitter metabolism and influencing the sensitivity of nerve receptors, such as those involved in stress and nervousness.

Research

Magnesium is a cofactor in over 300 enzyme-driven processes throughout the body. It has numerous roles, including bone and tooth development, muscle function, maintaining heart rhythm, cellular energy, and calcium, potassium, and water balance. The intestines, kidneys, and bones are the main areas involved in magnesium balance (DiNicolantonio et al., 2018).

According to Health Canada, over 34% of Canadians have inadequate magnesium intakes, despite its importance for maintaining overall health (Health Canada, 2012). Reasons for this include decreased soil magnesium levels, chronic illness, and depletion in the body due to stress or medication, or over-eating refined and processed foods (DiNicolantonio et al., 2018).

Subclinical magnesium deficiency is easily overlooked when testing blood magnesium levels. When left unaddressed, deficiency can affect vital cellular processes and lead to impaired bone formation, cardiovascular problems, muscle cramps, insulin resistance, and in extreme cases hypomagnesemia (DiNicolantonio et al., 2018). To prevent magnesium deficiency, it must be consumed regularly.

Approximately 60% of the body's stored magnesium is found in the bones. It is an essential structural component of the bone's mineral matrix and is stored here as a resource for replenishing extracellular magnesium levels. A clinical study identified magnesium intake as a strong and independent predictor of bone mineral density in elite swimmers (Matias et al., 2012). Additionally, a study on postmenopausal women found that serum magnesium levels were significantly lower in women with osteoporosis than in women with normal bone mineral density. These results suggest that deficiency can impact the likelihood of fragile bones and osteoporosis (Mutlu et al., 2007).

Magnesium is critical for maintaining muscle mass and proper function, with approximately 27% of the body's magnesium found in its skeletal muscle tissue (Welch et al., 2016). Dietary intake is inversely associated with age-related declines in muscle mass and power (Welch et al., 2016). A cross-sectional study found a positive relationship between high-magnesium intake and skeletal muscle mass, as well as leg power in women. Results showed this relationship was seven times more significant than the effect of dietary protein on skeletal muscle mass (Welch et al., 2016).

Magnesium's role in muscle contraction and relaxation also affects heart rhythm. A clinical study observed that when participants consumed a diet with only 33% of the recommended dietary magnesium for 78 days, they experienced changes in their heart rhythm. Participant magnesium levels were then successfully replenished with a daily dose of 200 mg of magnesium per day for 58 days (Nielsen et al., 2007).

Ingredients

Each chewable tablet contains:

Magnesium (citrate) 50 mg

Dosage

Recommended adult dose: Chew 1 tablet daily or as directed by a health care practitioner.

Cautions

Keep out of the reach of children.

References

- DiNicolantonio, J.J., O'Keefe, J.H. & Wilson, W. (2018). Subclinical magnesium deficiency: a principal driver of cardiovascular disease and a public health crisis. *Open Heart*, 5(1), e000668.
- Health Canada. (2012). Do Canadian adults meet their nutrient requirements through food intake alone? Government of Canada. Retrieved October 16, 2018 from <https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/health-nutrition-surveys/canadian-community-health-survey-cchs/canadian-adults-meet-their-nutrient-requirements-through-food-intake-alone-health-canada-2012.html>
- Matias, C.N., Santos, D.A., Monteiro, C.P., et al. (2012). Magnesium intake mediates the association between bone mineral density and lean soft tissue in elite swimmers. *Magnesium Research*, 25(3), 120-5.
- Mutlu, M., Argun, M., Kilic, E., et al. (2007). Magnesium, zinc and copper status in osteoporotic, osteopenic and normal post-menopausal women. *The Journal of International Medical Research*, 35(5), 692-5.
- Nielsen, F.H., Milne, D.B., Klevay, L.M., et al. (2007). Dietary magnesium deficiency induces heart rhythm changes, impairs glucose tolerance, and decreases serum cholesterol in post-menopausal women. *Journal of the American College of Nutrition*, 26(2), 121-32.
- Welch, A.A., Kelaiditi, E., Jennings, A., et al. (2016). Dietary magnesium is positively associated with skeletal muscle power and indices of muscle mass and may attenuate the association between circulating c-reactive protein and muscle mass in women. *Journal of Bone and Mineral Research*, 31(2), 317-25.