

# Magnesium Bisglycinate + C

Cod. FE2378 – 226 gr



**Magnesium bisglycinate** has been shown to be the most bioavailable form of magnesium, with absorption rates of over 200% compared to other forms, such as magnesium chloride. This high absorption is due to the binding of magnesium to two glycine molecules, resulting in a magnesium compound that is very easily absorbed by the body. Magnesium bisglycinate is combined with vitamin C in this formula.

Magnesium is one of the most important and essential minerals for our well-being. It is involved in more than 300 enzymatic reactions affecting all aspects of metabolic function. Intestinal absorption, skeletal storage and calcium release, along with the nervous system function, also depend on adequate magnesium intake.

Magnesium helps to reduce tiredness and fatigue and contributes to electrolyte balance, protein synthesis and normal energy metabolism, as well as participating in the normal functioning of the nervous system, muscles and bones.

Each dose contains 200 mg of magnesium in its elemental form. The formula includes an additional 375 mg of vitamin C to support and supplement the function of magnesium in the body.

**Ingredients:** Magnesium bisglycinate, acid (citric acid), natural lemon-lime flavour, L-ascorbic acid (vit. C), acidity regulator (malic acid), sweetener (steviol glycosides from Stevia rebaudiana and isomaltulose).

<b>Nutritional information</b>	<b>1 scoop (5 g)</b>
Magnesium (from magnesium bisglycinate)	200 mg (53%*)
Vitamin C (L-ascorbic acid)	375 mg (469%*)

\*NRV: Nutrient Reference Value in %.

#### **Size and format:**

226 gr

#### **Recommended daily dose:**

1 scoop daily.

Do not exceed the stated recommended daily dose.

#### **Indications and uses:**

- Magnesium deficiency in the body, physical or psychological stress (insomnia, tiredness, irritability, weakness, etc.) and depression.
- It is also a good protector of the cardiovascular system and is a good ally for sportsmen and women to prevent muscle contractions.
- It lowers high blood pressure and regulates blood fats.

#### **Cautions:**

Consult a health-care practitioner if pregnant or breast-feeding.

**MAGNESIUM:** magnesium bisglycinate binds to two glycine molecules, fully reacting and providing the most absorbable form of magnesium that the body uses. Magnesium bisglycinate offers a fast and efficient way to absorb magnesium. The resulting molecule stabilises magnesium and improves bioavailability. According to different studies, magnesium bisglycinate shows absorption levels of more than 200% <sup>(1,2)</sup>.

Approximately 60% of the magnesium in the body is found in the bones, 26% in the muscles and the rest in soft tissues and bodily fluids.

It is essential for the correct metabolism and absorption of calcium. This mineral plays a very important role at the cellular level, as it regulates the flow of calcium into the cells and, together with calcium, produces ATP or energy needed by the cells to perform all bodily functions. It is also essential in the transmission of nerve impulses, especially at the intracellular level, and is a cofactor in many enzymatic processes necessary for cellular energy utilisation, which explains the need for high magnesium concentrations in cells <sup>(3-5)</sup>.

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Deficiency is reflected in weakness, tiredness, anxiety, apathy, depression, insomnia, irritability, heart problems, predisposition to stress, as well as muscle contraction problems. Possible deficiencies of this mineral are more frequent in older people and in women during the premenstrual period. Magnesium deficiency is associated with premenstrual syndrome. Studies have shown that magnesium intake reduces nervousness, breast tenderness, weight gain, fatigue and headaches during PMS <sup>(3,6)</sup>.

It has a positive effect on stress states and has a calming action. It improves heart muscle activity and regulates blood fats <sup>(4,7)</sup>.

**VITAMIN C:** vitamin C is not produced by the body. Therefore, it must be obtained on a daily basis, either from adequate servings of fruit and vegetables or from supplements.

It plays an important role in human health as it is part of the antioxidant defence system and, therefore, contributes to the protection of cells against oxidative damage, helping to reduce the negative effects this process has on the development of certain chronic pathologies associated with cardiovascular disease and neurological disorders, osteoarticular pathology, diabetes and cancer. Specifically, regarding cardiovascular health, it prevents the oxidation of LDL cholesterol and oxidative damage to the walls of blood vessels. Its benefits include lowering blood pressure, reducing the risk of clotting and strengthening the vascular and capillary endothelium. Together with other antioxidants, it plays an important role in eye health by slowing the progression of age-related macular degeneration and vision loss <sup>(8-11)</sup>.

It supports the immune system by increasing defence cells and has been shown to be effective in reducing the symptoms and duration of the common cold. It also has a positive effect on connective tissue as it is involved in the formation of collagen—structural fibres that are essential for the proper functioning of bones, teeth, cartilage, gums, skin and blood vessels. Vitamin C is also involved in the synthesis of neurotransmitters and peptide hormones for proper functioning of the nervous system and psychological functions <sup>(10-13)</sup>.

Vitamin C contributes to the normal functioning of cellular energy production, thereby reducing tiredness and fatigue and improves the absorption of iron from plant sources, making it especially important for vegetarians and vegans. It is also associated with improved athletic performance as vitamin C is a cofactor for carnitine and increases cardiac capacity. It promotes an adequate immune response during and after intense physical exercise <sup>(11,13-15)</sup>.

**MALIC ACID:** is a weak acid found in some fruits, such as apples and pears. Traditional medicine used apple cider vinegar both topically and internally to treat painful rheumatism. Malic acid or malate is the base that initiates the Krebs cycle, the key to energy production. Studies have shown that malic acid supplementation increases the amount of malate in mitochondria and, therefore, increases the energy production capacity of the cell, reducing fatigue and improving exercise tolerance <sup>(16,17)</sup>.

## References:

- 1) European Food Safety Authority (EFSA). "Opinion on certain bisglycinates as sources of copper, zinc, calcium, magnesium and glycinate nicotinate as source of chromium in foods intended for the general population (including food supplements) and foods for particular nutritional uses-Scientific Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food." EFSA Journal 6.6 (2008): 718.
- 2) Bohn T. Magnesium absorption in humans. PhD thesis (no. 14930.) Swiss Federal Institute of Technology Zurich, Switzerland, 2003.
- 3) Seelig, Mildred S. "Consequences of magnesium deficiency on the enhancement of stress reactions; preventive and therapeutic implications (a review)." Journal of the American College of Nutrition 13.5 (1994): 429-446.
- 4) Golf, S. W., S. Bender, and J. Grüttner. "On the significance of magnesium in extreme physical stress." Cardiovascular Drugs and Therapy 12.2 (1998): 197-202.
- 5) Reinhart, Richard A. "Magnesium metabolism: a review with special reference to the relationship between intracellular content and serum levels." Archives of internal medicine 148.11 (1988): 2415-2420.
- 6) Laires, Maria José, Cristina Paula Monteiro, and Manuel Bicho. "Role of cellular magnesium in health and human disease." Front Biosci 9 (2004): 262-276.
- 7) Bo, Simona, and Elisabetta Pisu. "Role of dietary magnesium in cardiovascular disease prevention, insulin sensitivity and diabetes." Current opinion in lipidology 19.1 (2008): 50-56.
- 8) Gorton, H. Clay, and Kelly Jarvis. "The effectiveness of vitamin C in preventing and relieving the symptoms of virus-induced respiratory infections." Journal of manipulative and physiological therapeutics 22.8 (1999): 530-533.
- 9) Wintergerst, Eva S., Silvia Maggini, and Dietrich H. Hornig. "Immune-enhancing role of vitamin C and zinc and effect on clinical conditions." Annals of Nutrition and Metabolism 50.2 (2006): 85-94.
- 10) Pino Alfonso, Pedro Pablo, et al. "Uso de la vitamina C en el catarro común." Acta med. Hosp. Clin. Quir. Hermanos Ameijeiras 9.1-2 (2000): 90-95.
- 11) Barbany, Joan R., and Casimiro Javierre. "Suplementación en vitamina C y rendimiento deportivo (II)." Arch. med. deporte (2006): 127-141.
- 12) Hernández Ramos, F. "Antienviejamiento con nutrición ortomolecular." Edit. RBA-Integral, Barcelona (2012): 236-253.
- 13) Duffy, StephenJ, et al. "Treatment of hypertension with ascorbic acid." The lancet 354.9195 (1999): 2048-2049.
- 14) Valdés F. "Vitamina C." Actas dermo-sifiligráficas 97.9 (2006): 557-568.
- 15) Martínez-Flórez, S., et al. "Los flavonoides: propiedades y acciones antioxidantes." Nutrición hospitalaria 17.6 (2002): 271-278.
- 16) Naghii, M. R. "The significance of dietary boron, with particular reference to athletes." Nutrition and Health 13.1 (1999): 31-37.
- 17) Werbach, Melvyn R. "Nutritional strategies for treating chronic fatigue syndrome." Alternative Medicine Review 5.2 (2000): 93-108.