

Magnesium Chelate Powder

Highly absorbable magnesium in a great tasting powder



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Magnesium Chelate Powder features magnesium bisglycinate chelate, one of the best absorbed forms of magnesium. Each 5-gram serving (1 teaspoon) provides 300 mg of elemental magnesium in a great-tasting, orange flavored powder sweetened with organic stevia leaf powder. Owing to a patented process that forms a very stable chelate between each magnesium ion and two molecules of the amino acid glycine, this product should not cause any of the unfavorable gastrointestinal symptoms associated with magnesium supplementation, such as loose stools or upset stomach.

Magnesium is an essential mineral that serves as an enzyme cofactor for over three hundred biochemical reactions in the body, including those of glycolysis, the first step in harnessing energy from carbohydrates.¹ Magnesium follows potassium as the second most abundant intracellular cation (positively charged electrolyte) in the body.² The adult human body contains approximately 25 grams of magnesium, over 60% of which is found in the skeleton. Muscle tissue contains about 27%, with the bulk of the balance found in other intracellular areas, and less than 1% occurring in the blood.³

As a structural component of the hydroxyapatite mineral matrix of bone, a natural calcium channel blocker, muscle relaxant, facilitator of calming effects upon the nervous system, and a required element for electrolyte balance and proper functioning of sodium-potassium pumps, magnesium plays a crucial role in supporting physical strength and mobility, muscle contraction, neurological health, cardiac function, and psychological balance. Magnesium's role as an enzyme cofactor for processes that generate ATP underlies its importance for maintaining energy levels and metabolic efficiency.

Benefits

- **Bone health:** The practice of supplementing solely with calcium, in the absence of required vitamin and mineral cofactors, may not have the intended effect of reversing or preventing bone loss. Magnesium is an essential element of the physical structure of bone tissue and helps contribute to maintaining healthy bones.
- **Compromised digestion:** Patients with compromised digestive function—such as those who have been on long-term proton pump inhibitors (PPIs) or other stomach acid-reducing drugs—may benefit from extra magnesium, as hypochlorhydria may prevent adequate liberation of minerals from their food bases, including magnesium. Continued use of PPIs may inhibit proper absorption of oral magnesium.⁷⁻⁹ Long-term use of acid blockers is increasingly linked to low mineral status, as well as bone fractures.
- **Cardiovascular function:** Owing to its role in muscle contraction and relaxation, and nerve conduction, magnesium may help support healthy cardiovascular function and blood pressure levels. Hypomagnesemia is associated with cardiac arrhythmias, ischemic heart disease, sudden cardiac death, hypertension, transient ischemic attacks (TIA), stroke, and pre-eclampsia.^{10,11} Moreover, magnesium is a cofactor for the desaturase enzymes involved in synthesizing anti-inflammatory and vasodilating prostaglandins (PGE1). As such, it has been shown to reduce blood pressure in hypertensive patients, with those having the highest blood pressure exhibiting the most favorable and significant responses. The effect is even greater when magnesium is combined with potassium, and when sodium levels are lowered. Additionally, magnesium supplementation may have an additive effect when combined with hypertensive drugs, contributing to an even greater reduction in blood pressure.¹²
- **Diabetes & insulin resistance:** Research supports that magnesium deficiency is associated with, and may exacerbate, insulin resistance and diabetes. Magnesium plays a key role in insulin-mediated glucose uptake. Reduced intracellular magnesium concentration results in lower activity of the tyrosine-kinase enzyme required for proper functioning of the insulin receptor, which may contribute to insulin resistance. Many studies have demonstrated positive effects on the metabolic profile of type-2 diabetics supplementing with magnesium.^{13,14}
- **Chronic headaches:** Migraine headaches and milder forms of headaches have long been known to respond to magnesium supplementation. Patients experiencing active migraines show rapid and significant relief upon intravenous magnesium infusion. For more practical long-term treatment, regular oral supplementation has also been shown to reduce the frequency of migraines.^{15,16}
- **Bowel function/occasional constipation:** Magnesium draws water into the lower GI tract, making stools softer and easier to pass. This property underlies the traditional use of Epsom salt (magnesium sulfate) as a saline laxative. Magnesium citrate has been employed in pre-colonoscopy emptying of the colon, with fewer unpleasant side-effects and better patient tolerance than the more common polyethylene glycol preparations.¹⁷

- **Kidney stones:** The delicate balance between calcium and magnesium suggests that adequate magnesium levels may protect against inappropriate deposition of calcium in the soft tissue. Low magnesium levels are common in patients prone to developing kidney stones. Increased urinary magnesium concentrations have been shown to reduce the formation, and decrease the size, of calcium oxalate crystals, possibly by forming soluble complexes with oxalate. Magnesium may also reduce absorption of oxalates by binding exogenous oxalate in the intestine.^{18,19}

Why Magnesium Chelate Powder?

The magnesium amino acid chelate in this product is absorbed via dipeptide channels, bypassing the usual active transport and passive diffusion routes for intestinal ion absorption, where magnesium would otherwise compete with other minerals. This method of delivery allows larger amounts of magnesium to be absorbed more quickly and be better retained by the body, as compared to many other forms.²⁰ Moreover, the breaking of the bonds between magnesium and glycine allows the body to use both the mineral and the amino acids, making this a more physiologically natural and nutritionally beneficial process than other chelated mineral delivery mechanisms, such as EDTA.

The magnesium-glycine complex protects magnesium from binding to dietary phytates and tannins, therefore reducing absorption interference and enhancing bioavailability.²⁰ This unique form of magnesium has been shown to be effective for individuals with the greatest impairments in magnesium absorption, such as those with inflammatory bowel conditions, among whom the prevalence of overt magnesium deficiency may be as high as 86%.²¹ Compared to healthy subjects, those with compromised intestinal mineral absorption excrete twice as much magnesium when given insoluble salt forms (such as Mg oxide), as opposed to a chelate.

This amino acid chelate may be especially beneficial for those who require high doses of magnesium, as relatively high doses lead to fewer unwanted gastrointestinal effects that may present with other forms of supplementation. Chelated magnesium has been shown to reduce the pain associated with dysmenorrhea and the frequency and severity of leg cramps in pregnant women.^{22,23}

Recommended Use:

- Take 5 grams (approx. one teaspoon) of powder mixed in eight ounces of water per day, or as directed by your health care practitioner.

For a list of references cited in this document, please visit:

http://catalog.designsforhealth.com/assets/itemresources/Magnesium_Chelate_Powder_References.pdf

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

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