

TriMag Supreme™

Blend of Three Bioavailable Forms of Magnesium



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TriMag Supreme™ is a unique blend of three highly bioavailable forms of magnesium designed to support cardiovascular health.* It contains magnesium orotate, magnesium glycerophosphate, and TRAACS® – magnesium bisglycinate chelate. One serving provides 300 mg of elemental magnesium in an easy-to-mix powder. TriMag Supreme™ is naturally sweetened with monk fruit and contains no stevia or artificial sweeteners.

Magnesium is the fourth most common mineral in the body. It is a cofactor in more than 300 enzyme systems necessary for the function of the human body, including muscle contraction, energy production, nerve conduction, and gating of calcium channels.¹ Magnesium acts as a cardiovascular regulator by maintaining electrical, metabolic, and vascular homeostasis, in addition to supporting a healthy inflammatory response and protecting against oxidative stress, a known contributor to atherogenesis and cardiovascular disease (CVD).² Chronic magnesium deficiency is associated with an increased risk of hypertension, atherosclerosis, changes in lipid metabolism, stroke, and cardiac arrhythmias.³ Analysis of eight prospective cohort studies with information on 74,422 individuals and more than 5,884 CVD events showed that the participants in the highest category of serum magnesium concentration had approximately 20% lower risk of total CVD events compared with individuals in the lowest serum magnesium concentration category.⁴

Magnesium plays a broad and complex physiological role in cardiovascular health. Animal studies have shown the activation of nuclear factor kappa B (NFκB) in the presence of low extracellular magnesium ions, which suggests that magnesium can support a healthy inflammatory response. Oxidative stress markers, such as increased plasma nitric oxide levels, and enhanced tissue, erythrocyte, and lipoprotein peroxidation have been observed in rats with magnesium deficiencies. In addition, the severity of myocardium injury in magnesium-deficient animals was reduced with antioxidant treatment.⁵ Magnesium has been shown to support the reduction of platelet-stimulating factors and support platelet-inhibiting factors in animal and laboratory studies.^{6,7} Magnesium is important in the function of many ion channels including sodium, potassium, and calcium. Hypomagnesemia has been shown to weaken the mechanism in potassium-proton exchange, and it alters the concentration of sodium and calcium concentrations.²

Due to the critical role of magnesium in many enzyme systems within the body, supplementation can support cardiovascular health. Additionally, magnesium is well-known for its roles in supporting bone health, digestive health, healthy insulin metabolism, occasional constipation, muscle contraction, and neurological health.¹

Ingredient Highlights

Magnesium Orotate contains two components: magnesium and orotic acid (OA). The OA behaves as a transporter in helping magnesium enter cells.⁸ OA is also an important intermediate in the synthetic pathway of pyrimidines. According to an animal study, OA may improve myocardial purine and pyrimidine levels by stimulation of the release of uridine in the bloodstream.^{9,10} OA has also been shown to improve the energy status of injured myocardium by stimulation of the synthesis of glycogen and adenosine triphosphate (ATP).⁹ In a randomized control trial, participants who had severe congestive heart failure, according to New York Heart Association's functional class IV (NYHA IV), and who were under optimal medical cardiovascular treatment were randomized to receive either magnesium orotate or a placebo. After approximately 1 year, the survival rate of participants receiving magnesium orotate was 75.7% compared to the placebo group with a survival rate of 51.6%. The clinical symptoms of those who received magnesium orotate improved 38.5% compared to those receiving a placebo whose symptoms deteriorated by 56.3%.¹¹

Benefits*:

- Three highly absorbable forms of elemental magnesium
- 300 mg per serving in an easy-to-dissolve powdered form
- Formulated to support cardiovascular health
- Naturally sweetened with citric acid and monk fruit
- Unlikely to cause negative gastrointestinal side effects

Supplement Facts

Serving Size 5 grams (approx. one scoop)
Servings Per Container 30

Amount Per Serving	% Daily Value	
Magnesium	300 mg	71%
(as Magnesium Orotate 100 mg, Magnesium Glycerophosphate 100 mg, TRAACS® Magnesium Bisglycinate Chelate Taste Free 100 mg)		

*Daily Value not established.

Other Ingredients: Citric acid, luo han go extract (fruit).

In addition, a pilot study of individuals who had coronary heart disease and left ventricular dysfunction showed statistically significant improvement in exercise tolerance after receiving magnesium orotate.¹² Magnesium orotate does not bind to gastric acid. In addition, it does not exhibit the laxative effects observed in other forms of magnesium.⁹

Magnesium Glycerophosphate has been shown to support cardiovascular health. In a study with participants who had a history of atrial fibrillation and mild-to-moderate hypomagnesemia in treatment for cardiovascular disease, magnesium glycerophosphate was potentially associated with a decrease in prevalence of ventricular ectopy.¹³ Traditional side effects of magnesium have been shown not to occur with magnesium glycerophosphate as compared with other forms of magnesium.¹⁴

TRAACS® Magnesium Bisglycinate Chelate

The magnesium amino acid chelate in this product is absorbed by way of 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 to be better retained by the body, as compared with many other forms. The magnesium-glycine complex protects magnesium from binding to dietary phytates and tannins, thereby reducing absorption interference and enhancing bioavailability. The breaking of the bonds between magnesium and glycine allows the body to use both the mineral and the amino acids.¹⁵

This 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%.¹⁶ Compared to healthy subjects, those with compromised intestinal mineral absorption excrete twice as much magnesium when given insoluble salt forms (such as magnesium 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.^{17,18}

Recommended Use: Take 5 grams (approx. one scoop) of powder mixed in 8 ounces of water per day, or as directed by your health-care practitioner.

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

<https://www.designsforhealth.com/techsheet-references/trimag-supreme-references.pdf>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities. Individual monitoring, including liver function tests, may be appropriate.

TRAACS® is a registered trademark of Albion Laboratories, Inc.

***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.**

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at www.designsforhealth.com.