Calcium + Magnesium Chelate

CLINICAL APPLICATIONS

- Provides Three Forms of Highly-Absorbed Calcium & Magnesium for a Variety of Protocols
- High-Concentration Calcium & Magnesium for Cardiovascular Support
- Helps Maintain Healthy Blood Pressure and Glucose Levels Already Within the Normal Range
- Promotes Energy Production and Muscle Relaxation

This product includes 200 mg of elemental calcium and 175 mg of elemental magnesium per serving, each ideally formulated using three mineral forms to ensure maximum absorption. While most mineral supplements use only a single-source of minerals which can easily overwhelm a single pathway of absorption and limit the uptake of high-dose calcium-magnesium regimens, this product leverages the benefit of multiple pathways of absorption by using three different mineral forms.

Overview

Calcium is most well-known for its role in the formation of bone and teeth, but it also plays a role in keeping the heart and muscles functioning by governing muscle contractions. Magnesium is also a constituent of bone and controls potassium and calcium uptake, assists in electrical nerve activity, and manages the metabolism of carbohydrates. In the body, phosphorus is second in abundance only to calcium, and is necessary for bone growth, cellular health and acid-alkaline balance.

Magnesium enhances the absorption of calcium, and works in tandem with calcium to allow muscles to contract and relax. Combined, these two essential minerals maintain in an intricately linked relationship that supports both muscle and nervous system function.

Bioavailability – The Mineral Chelate Difference†

The importance of bioavailability is obvious. If consuming a mineral supplement has little effect on improving the body's mineral balance, there is no reason to ingest it. Signs of inferior mineral supplements include the use of cheap, poorly absorbed, rock-salt minerals like calcium carbonate and magnesium oxide (See Figure 1). These mineral forms slow and limit absorption, relying on adequate stomach acid to release calcium ions which then enter the body via passive diffusion. And, because they tend to remain in the intestines longer, these forms of mineral supplements can cause intestinal distress such as constipation (calcium carbonate) or diarrhea (magnesium oxide).

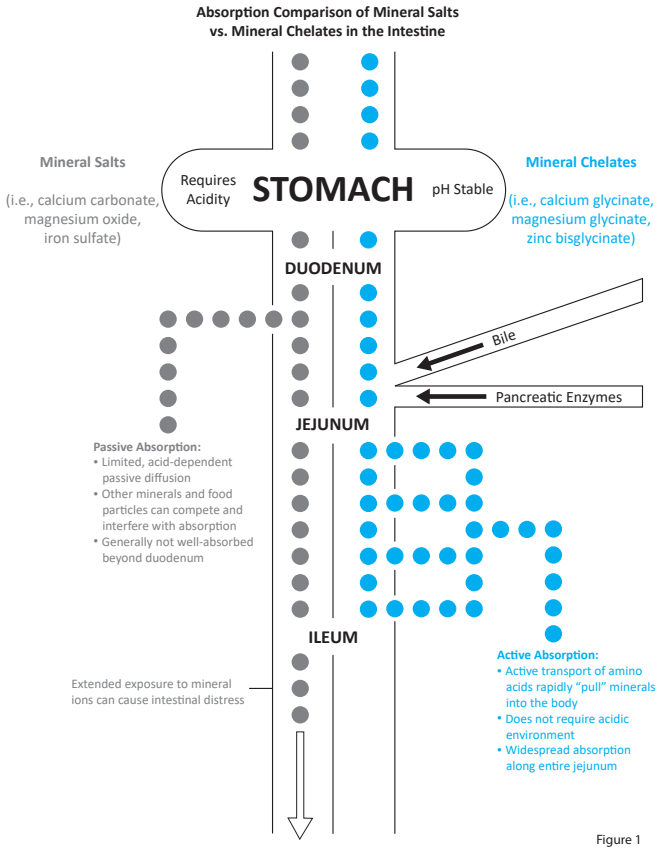


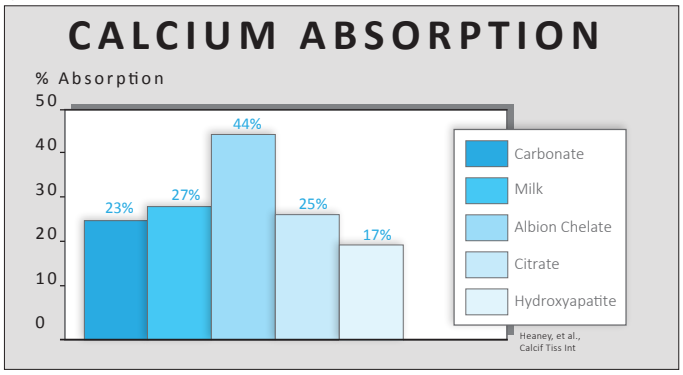
Figure 1

This product provides the benefit of highly-absorbed, Albion® mineral chelates. Albion® is the world leader in manufacturing highly bioavailable mineral chelates, a specialized form of minerals bound to amino acids. This patented process creates organic mineral compounds which use active absorption

†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.

mechanisms in the gastrointestinal tract to greatly enhance mineral absorption. Comparison studies have shown significantly superior absorption of mineral chelates compared to other mineral forms. In a clinical study comparing calcium absorption in humans, Albion®'s patented calcium chelate delivered the greatest absorption of all calcium sources tested (See Figure 2). [1]

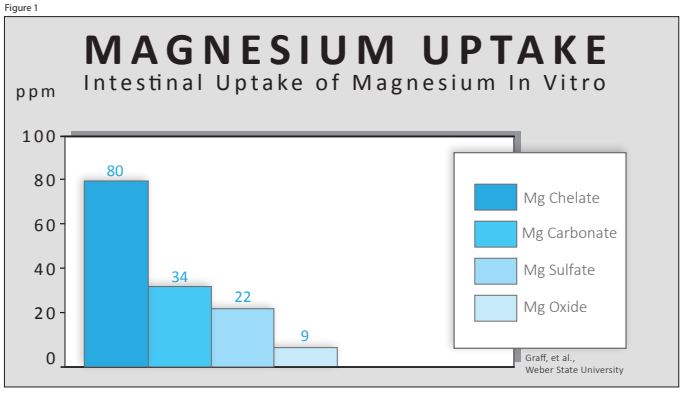
Figure 2



In a magnesium comparison study reported by Graff et al. at Weber State University, Albion®'s magnesium amino acid chelate had (See Figure 1)[2]:

- 8.8 times greater absorption than magnesium oxide
- 5.6 times greater absorption than magnesium sulfate
- 2.3 times greater absorption than magnesium carbonate

Figure 1



In addition, mineral chelates are gentle, gut "friendly" minerals that do not cause constipation that often accompanies calcium carbonate and other rock-salt forms. Albion®'s mineral chelates have extensive clinical research proving their superior bioavailability, biologic activity, stability, and improved tolerance.

Calcium†

Calcium is required for heart health, muscle function, nerve transmission, intracellular signaling and hormonal secretion. It is less than 1 % of total body calcium that supports these critical metabolic functions[3]. Serum calcium is very tightly regulated and does not fluctuate with changes in dietary intakes. The body uses bone tissue as a reservoir for calcium, as well as a source of calcium, to maintain constant concentrations of calcium in blood, muscle and intercellular fluids.[3] The remaining 99 % of the calcium supply in the body is stored in the bones and teeth, serving as support for their structure and function.[3]

Phosphorous†

Calcium alone cannot keep bones strong - adequate phosphorus levels impact bone health by making bone tissue more resistant to shock and compression. Phosphate makes up 50 % of bone tissue and helps maintain other body tissues. Phosphorous is an essential ingredient in calcium supplements to promote bone strength and remodeling.[4]

Magnesium†

More than 57 % of the population does not meet the United States Department of Agriculture requirements for magnesium in their diet. Magnesium is a cofactor in over 300 enzyme systems that regulate diverse biochemical reactions in the body, including protein synthesis, muscle and nerve function, blood glucose control and blood pressure regulation.[5-7] It contributes to the structural development of bone and is required for the synthesis of DNA, RNA and the antioxidant, glutathione. Magnesium also plays a role in the active transport of calcium and potassium ions across cell membranes, a process that is important to nerve impulse conduction, muscle contraction and normal heart rhythm.[8]

Directions

1-2 capsules three times per day or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, artificial colors or flavors.

Cautions

If you are pregnant or nursing, consult your physician before taking this product.

†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.

Supplement Facts V4

Serving Size 2 Capsules
Servings Per Container 45 & 90

	Amount Per Serving	% Daily Value
Calcium (as Calcium Hydroxyapatite, Calcium Citrate USP, Albion® Dicalcium Malate, Albion® Calcium Bisglycinate Chelate)	200 mg	15%
Phosphorus (as Calcium Hydroxyapatite)	40 mg	3%
Magnesium (as DiMagnesium Malate, Magnesium Citrate USP, Albion® Magnesium Lysinate Glycinate Chelate)	175 mg	42%

References

1. Heaney, RP. Carbonate Milk Albion Chelate Citrate Hydroxyapatite. *Calcif Tiss Int* 1990;46:300-4.
2. Graff et al. Magnesium: wide spread benefits. Albion Research Notes 1992; 1(2):1.
3. Roussouw J, Brummelen R. The bioavailability of four magnesium preparations. Publication pending.
4. Clarkson PM, Haymes EM. Exercise and mineral status of athletes: calcium, magnesium, phosphorus, and iron. *Med Sci Sports Exerc*. 1995 Jun;27(6):831-43.
5. Committee to Review Dietary Reference Intakes for Vitamin D and Calcium, Food and Nutrition Board, Institute of Medicine. Dietary Reference Intakes for Calcium and Vitamin D. Washington, DC: National Academy Press, 2010.
6. Institute of Medicine (IOM). Food and Nutrition Board. Dietary Reference Intakes: Calcium, Phosphorus, Magnesium, Vitamin D and Fluoride. Washington, DC: National Academy Press, 1997.
7. Rude RK. Magnesium. In: Coates PM, Betz JM, Blackman MR, Cragg GM, Levine M, Moss J, White JD, eds. Encyclopedia of Dietary Supplements. 2nd ed. New York, NY: Informa Healthcare; 2010:527-37.
8. Rude RK. Magnesium. In: Ross AC, Caballero B, Cousins RJ, Tucker KL, Ziegler TR, eds. Modern Nutrition in Health and Disease. 11th ed. Baltimore, Mass: Lippincott Williams & Wilkins; 2012:159-75.