

Calcium



Malate Chelate

(replaces Calcium Krebs Cycle Chelate)

Supplement Facts

Serving Size 2 tablets

Servings Per Container 60

Amount Per Serving		% Daily Value
Calcium	500 mg	50%
(Di-Calcium Malate, Bis-Glycinate Chelate)		
Vitamin D	100 IU	25%
(Cholecalciferol)		

THIS INFORMATION IS PROVIDED FOR THE USE OF PHYSICIANS AND OTHER LICENSED HEALTH CARE PRACTITIONERS ONLY. THIS INFORMATION IS INTENDED FOR PHYSICIANS AND OTHER LICENSED HEALTH CARE PROVIDERS TO USE AS A BASIS FOR DETERMINING WHETHER OR NOT TO RECOMMEND THESE PRODUCTS TO THEIR PATIENTS. THIS MEDICAL AND SCIENTIFIC INFORMATION IS NOT FOR USE BY CONSUMERS. THE DIETARY SUPPLEMENT PRODUCTS OFFERED BY DESIGNS FOR HEALTH ARE NOT INTENDED FOR USE BY CONSUMERS AS A MEANS TO CURE, TREAT, PREVENT, DIAGNOSE, OR MITIGATE ANY DISEASE OR OTHER MEDICAL CONDITION.

Other Ingredients: Microcrystalline cellulose, croscarmellose, magnesium stearate, stearic acid.

performed by Professor Robert P. Heaney, MD from Creighton University, Omaha, Nebraska, that compared absorption rates of many common forms of calcium showed Albion's calcium, completely and properly chelated to glycine, to have far greater absorption than calcium citrate, calcium hydroxyapatite, calcium carbonate and even greater absorption than calcium from milk. (Heaney, R.P. et al *Calcit Tissue Int* (1990) 46: 300-304.)

Chelating chemically involves the process of binding a calcium ion by covalent and coordinate covalent bonds to either one, or two amino acids. The structure looks like putting two crab claws together hence the name chelate from the Greek word "chele" or claw. The end result of the chelating process is a dipeptide-like calcium protein molecule which (1) survives the acidity of the stomach and is non-ionizing like a calcium salt, (2) has a small enough molecular weight to be absorbed through the intestines intact, and (3) has a neutral charge, so its absorption is not hindered at the entrance of the intestinal cell. Many manufacturers attempt to chelate minerals by simply mixing the amino acids with the minerals in a dry powdered form. This will not allow these covalent bonds to occur and will not result in a chelate according to the NNFA definition of a chelate. Only Albion produces mineral chelates that meet the NNFA definition. NNFA is The National Nutritional Foods Association is an important regulatory organization for the dietary supplement industry. They defined a true chelate in order to attempt to stop manufacturers from calling minerals chelates that are not truly chelates. Their efforts have been unsuccessful thus far. Always look for the Albion logo or Patent numbers on your supplement bottles to be sure you are getting valid chelated minerals. Many Albion minerals have received GRAS status and may be used in foods. All the research out there performed on chelated minerals, use Albion minerals for the study. Their chelating process is so advanced, effective and unique that it is patented. The holder of the patent has written a Textbook on Mineral Absorption.

Albion also successfully bonds minerals to ligands that are healthy for the body such as glycine and malic acid as compared to questionable piccolinic acid. Let's compare absorption rates of different types of calciums based on what research shows. Research is in the works on Di-Calcium Malate. Its absorption is believed to be approximately 30%. Absorption of calcium bis-glycinate is 44% without food (possibly closer to 50% if taken with food). Calcium Citrate has an absorption of between 20-24%. Calcium hydroxyapatite shows absorption of about 14% while calcium carbonate shows absorption as low as 10%. Realize that patients taking 1000 mg of calcium carbonate are actually getting as little as 100 mg of calcium daily from it.

Designs for Health chose to combine two forms of Albion calcium to yield a high quality, well tolerated, well absorbed, efficacious dose of calcium. We combine the Di-Calcium Malate with Calcium Glycinate, known as Calcium bis-glycinate since it is bonded to glycine on both sides. Then, knowing the great benefits of Vitamin D and how it aids calcium metabolism, Designs for Health added 100 IU of Vitamin D to this superb Calcium Formula. Our Calcium Malate Chelate yields a total of 250 mg of elemental calcium per tablet. The recommended dose is two tablets per day, 500 mg of total elemental calcium.

Designs for Health's Calcium is made with the best chelated minerals in the industry, Albion chelates.

Magnesium



Malate Chelate

(replaces Magnesium Glycinate)

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In this formula some of the magnesium is bound to malic acid and the rest is chelated to the amino acid glycine (low molecular weight and is ideal for both chelating and absorbing magnesium).

MALIC ACID

Malic acid is a naturally occurring compound found in a wide variety of fruits and vegetables, the richest source being apples, which is why malic acid is sometimes referred to as "apple acid." Remember the saying: "An apple a day keeps the doctor away"? Apples also contain polyphenols. Malic acid helps to make energy. It plays a role in the complex process of deriving adenosine triphosphate (ATP; the energy currency that runs the body) from food. Research shows that malic acid combined with magnesium may relieve symptoms of fibromyalgia.¹

RESEARCH ABSTRACT

■ Treatment of fibromyalgia syndrome with Super Malic: a randomized, double blind, placebo controlled, crossover pilot study.

J Rheumatol. 1995 May;22(5):953-8. Related Articles, Links, Russell IJ, Michalek JE, Flechas JD, Abraham GE.

OBJECTIVE: To study the efficacy and safety of Super Malic, a proprietary tablet containing malic acid (200 mg) and magnesium (50 mg), in treatment of primary fibromyalgia syndrome (FM). **METHODS.** Twenty-four sequential patients with primary FM were randomized to a fixed dose (3 tablets bid), placebo controlled, 4-week/course, pilot trial followed by a 6-month, open label, dose escalation (up to 6 tablets bid) trial. A 2-week, medication free, washout period was required before receiving treatment, between blinded courses, and again before starting open label treatment. The 3 primary outcome variables were measures of pain and tenderness but functional and psychological measures were also assessed. **RESULTS.** No clear treatment effect attributable to Super Malic was seen in the blinded, fixed low dose trial. With dose escalation and a longer duration of treatment in the open label trial, significant reductions in the severity of all 3 primary pain/tenderness measures were obtained without limiting risks. **CONCLUSIONS.** These data suggest that Super Malic is safe and may be beneficial in the treatment of patients with FM. Future placebo-controlled studies should utilize up to 6 tablets of Super Malic bid and continue therapy for at least 2 months.

REFERENCES

1. Abraham G, Flechas J. Management of fibromyalgia: rationale for the use of magnesium and malic acid. *J Nutr Med* 1992;3:49-59.

Supplement Facts

Serving Size 2 tablets
Servings Per Container 60

Amount Per Serving		% Daily Value
Magnesium	500 mg	125%
(Di-Magnesium Malate, Buffered Glycinate Chelate)		

Other Ingredients: Microcrystalline cellulose, croscarmellose, magnesium stearate, stearic acid.

Designs for Health's Magnesium is made with the best chelated minerals in the industry, Albion chelates.

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