Calcium Malate

Highly absorbable calcium plus vitamin D

designs for health®

By David Brady, ND, DC, CCN, DACBN & Caitlin Higgins, MS, CNS

Designs for Health's Calcium Malate provides 500 mg of calcium per 2 capsule serving plus vitamin D to aid in calcium absorption. Malic acid is a compound found naturally in apples and other fruits and vegetables. It helps to support energy production by playing a role in the process of deriving adenosine triphosphate (ATP) — the energy currency that runs the body — from food. In addition to its role in energy production and physical performance, malic acid has shown to be effective for xerostomia (severe dry mouth), fatigue, and may help protect against kidney stone formation.[1-4] In a randomized trial of healthy human adults, the study showed that dicalcium malate had the longest half-life and was the most bioavailable form compared with calcium amino acid chelate at 18% and 26%, and calcium carbonate.[5]

Supplement Facts

Serving Size 2 capsules
Servings Per Container 60

Amount Per Serving		% Daily Value
Vitamin D (as Cholecalciferol)	2.5 mcg (100 IU)	13%
Calcium (as DimaCal® Di-Calcium Malate)	500 mg	38%

Other Ingredients: Cellulose (capsule), microcrystalline cellulose, stearates (vegetable source).

A review of the health benefits of calcium citrate malate (CCM) showed that unlike other forms of calcium that requires supplementation with meals, CCM delivers significant nutritional benefits to all ages when taken with or without food. Additionally, the CCM form may help protect against kidney stone formation.[6]

Calcium is the body's most abundant macromineral, 99% of which is housed in bone and teeth, while the remaining 1% in soft tissue and blood.[7] The need for more soluble forms of calcium becomes more critical as people age due to reduction in stomach acid production. As stomach pH increases, micronutrient absorption decreases often leading to nutrient deficiencies, especially in the elder population. Thus, those with achlorhydria or hypochlorhydria, due to aging or use of acid lowering medications are at risk of calcium deficiency, and calcium malate has been shown to be a particularly beneficial calcium source.[6]

A meta-analysis of human studies reveal that 500 mg of calcium citrate malate supplementation daily as calcium malate attenuated bone loss by 60%, due to its high bioavailability, and daily supplementation between 500 mg and 1500 mg improved bone mass among elderly men, postmenopausal women, young adults, and adolescents.[8]

The results of a systematic review and direct meta-analysis of pregnant women showed that calcium and vitamin D supplementation in pregnancy reduced the risk of preeclampsia and gestational hypertension and may be used for prevention.[9]

Skeleton calcium and blood calcium are highly interdependent, and the active form of vitamin D is crucial to maintain blood and bone calcium concentrations. In fact, a study of VDR null mice indicates that when calcium intake is low to normal, the active form of vitamin D enhances the intestinal absorption of calcium.[10] When the calcium level decreases, vitamin D sends signals to the various tissues to help restore it: vitamin D stimulates the digestive tract to absorb more calcium from foods and supplements, signals the kidneys to retain more calcium rather than excreting it, and also prompts the body to obtain calcium from its primary storage site, the bones.

In vivo mouse models demonstrated vitamin D directly and indirectly effected the development and remodeling of bone, clinically relevant for preventing rickets in children and preventing osteoporosis and bone fractures in the aging skeleton.[11]

A review on the global rickets consensus found that nutritional rickets is rising globally and is common in migrant and dark-skinned populations due to vitamin D and dietary calcium insufficiency. Thus, lifelong supplementation may be warranted for high-risk populations, pregnant women, and infants to prevent rickets and osteomalacia.[12]

Recommended Use:

- Take two capsules per day with a meal, or as directed by your health care practitioner.

DimaCal® 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.