

# BORN nutrition



Provides Three Forms of Highly-Absorbed Calcium for a Variety of Protocols | High-Concentration Calcium to Support Any Bone Building Protocol | Increases Skeletal Strength and Promotes Healthy Bone Density

## Micro Cal

**This product** provides three unique forms of highly-absorbed calcium to ensure maximum absorption of this important macromineral. While most calcium supplements use only a single-source of calcium, which can easily overwhelm a single pathway of absorption and limit uptake, this product takes advantage of three unique pathways of absorption by providing calcium in the hydroxyapatite, di-calcium malate, and glycinate forms. In addition, this product includes vitamin D and phosphorus, both critical nutrients for bone mineralization and remodeling.

### Overview

Calcium is required for strong bones, 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<sup>1</sup>. 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.<sup>1</sup> The remaining 99 % of the calcium supply in the body is stored in the bones and teeth, serving as a mineral reserve and structural support for the body.<sup>1</sup>

### Bioavailability – The Mineral Chelate Difference<sup>†</sup>

The importance of bioavailability is obvious. If consuming a calcium supplement has little effect on improving the body's calcium 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).

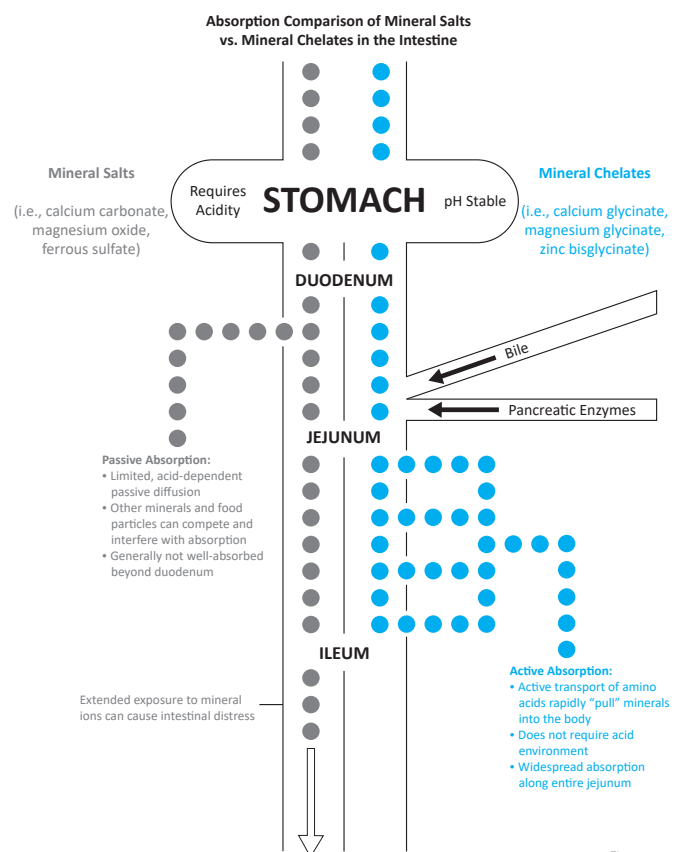
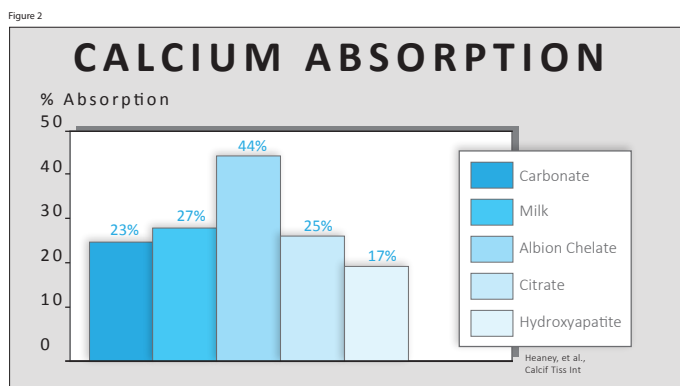


Figure 1

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 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).<sup>2</sup>

- Calcium from calcium carbonate is often absorbed at very low levels (less than 10 %).<sup>2</sup>
- In a human clinical study, Albion®'s patented calcium chelate formulation averaged 44 % absorption of the dose without the benefit of meal enhancement.<sup>2</sup> No other calcium form has an equivalent or higher rate of absorption.



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.

## Bone Health†

Bones increase in size and mass during periods of growth in childhood and adolescence, reaching peak bone mass around age 30. The greater the peak bone mass, the longer one can delay serious bone loss with increasing age. Consuming adequate amounts of calcium, phosphorous and vitamin D is essential throughout childhood, adolescence and early adulthood. Inadequate calcium intake may lead to poor bone and dental health and contribute to advanced stages of impaired condition of the bones.<sup>1</sup> this product is designed to promote absorption and utilization. Vitamin D significantly enhances the absorption and transport of calcium. Phosphorous is stored in the bones as tricalcium phosphate –

the same form found in this product, supplying the ideal ratio of calcium to phosphorus to further enhance bone strength and development. Calcium hydroxyapatite is used for its proven role in enriching bone mineral density (BMD). Hydroxyapatite is essentially a mineralized matrix that promotes resistance to bone shock and compression and is essential to reinforcing the bone matrix.<sup>3</sup> Decades of scientific studies suggest that hydroxyapatite supplementation fundamentally supports BMD and bone health.<sup>4-7</sup> A meta-analysis of six controlled studies demonstrated that hydroxyapatite was significantly more effective than calcium carbonate in supporting healthy bone structure and BMD.<sup>8]</sup>

## Directions

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

## Does Not Contain

Gluten, yeast, artificial colors and flavors.

## Cautions

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

Supplement Facts			V3
Serving Size 2 Capsules			
Servings Per Container 90			
2 capsules contain	Amount Per Serving	% Daily Value	
Vitamin D3 (as Cholecalciferol)	10 mcg (400 IU)	50%	
Calcium (as Calcium Hydroxyapatite, DimaCal® Dicalcium Malate, TRAACS® Calcium Bisglycinate Chelate, Calcium Citrate USP)	500 mg	38%	
Phosphorus (as Calcium Hydroxyapatite)	143 mg	11%	

## References

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