

# Calcium Reserve

## Comprehensive Bone Support†



## Clinical Applications

- » Supports Bone Metabolism†
- » Supports Bone Strength†
- » Provides Micronutrients for Utilization in Bone Production and Structure†

*Calcium Reserve* is a well-researched, standardized extract from one of the world's safest premium sources of bone—free-range New Zealand cattle. **Calcium Reserve** contains microcrystalline hydroxyapatite concentrate (MCHC), a complex crystalline compound containing calcium, phosphorus, bioactive growth factors, type I collagen, amino acids, glycosaminoglycans, and a broad range of essential trace elements that naturally comprise healthy bone.†

## Discussion

Numerous published studies support the safety, tolerability, and bone health-related effectiveness of MCHC supplementation.<sup>[1,2]</sup> Studies suggest that the bioavailability of calcium from MCHC supplements may be as good as or better than the bioavailability of calcium from calcium gluconate supplements.<sup>[3,4]</sup>

Welltopia utilizes standardized, safe, bovine-sourced MCHC from New Zealand, a country with stringent standards. Its production features a proprietary technique that preserves the bioactive contents of bone. This process creates a naturally balanced formula because whole bone extract provides all of the nutrients found in healthy bone.†

Unlike other calcium supplements on the market, Calcium Reserve consists of collagenous and non-collagenous proteins and peptides. These compounds include insulin-like growth factors I and II (IGF-I, IGF-II), transforming growth factor beta (TGF-beta), and osteocalcin, factors that stimulate alkaline phosphatase activity and support metabolism in human bone cells.<sup>[5]</sup> Removal of the protein fraction appears to reduce the positive effects of the formula, highlighting the importance of its presence.<sup>[6]</sup>

A study suggested that the occurrence of positive and statistically significant changes in forearm bone integrity were the result of daily supplementation with 3000 mg of microcrystalline hydroxyapatite.<sup>[7]</sup> Earlier studies compared Calcium Reserve to other forms of calcium with regard to the support of normal bone turnover and bone mineral integrity. In one 20-month, double-blind study, women were given 1400 mg of elemental calcium (equivalent to approximately 5000 mg MCHC) as either calcium carbonate or Calcium Reserve. At the end of the study, the presence of bone integrity was statistically significant in the Calcium Reserve group.<sup>[8]</sup>

Clinical trials suggested that Calcium Reserve supplementation was well-tolerated and yielded a positive outcome for dental status, bone

integrity, and healthy bone metabolism.<sup>[9,10]</sup> A randomized, controlled study indicated that the addition of Calcium Reserve to exogenously administered hormones provided statistically significant support (4.7%,  $P < 0.1$ ) to vertebral bone mass.<sup>[10]</sup> Another study of 60 subjects suggested that bone mass was maintained while on Calcium Reserve.<sup>[11]</sup>

Calcium Reserve is high-quality MCHC from New Zealand. The World Organization for Animal Health (the OIE) has classified New Zealand as a “negligible BSE risk country,” the most favorable official classification a country can be given.<sup>[12]</sup> Calcium Reserve is manufactured under proprietary processes that meet FDA, USDA, and EU regulatory requirements. Gentle processing is used to retain the delicate protein matrix and organic factors. X-ray-diffraction analysis confirms the microcrystalline structure. The MCHC is assayed for hydroxyproline content. The collagen content is greater than 22% with the majority being type I, the predominant collagen occurring in bone. Frequent heavy metal assays assure purity.

†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.

## Calcium Reserve Supplement Facts

Serving Size: 2 Capsules

	Amount Per Serving	%Daily Value
Vitamin D3 (cholecalciferol)	2.5 mcg (100 IU)	13%
Calcium (as MCHC <sup>S1</sup> and dicalcium malate <sup>S2</sup> )	400 mg	31%
Phosphorus (as MCHC) <sup>S1</sup>	90 mg	7%
Magnesium (as dimagnesium malate) <sup>S2</sup>	100 mg	24%
MCHC <sup>S1</sup>	1 g	**
Microcrystalline Hydroxyapatite (as MCHC) <sup>S1</sup>	600 mg	**

\*\* Daily Value not established.

**Other Ingredients:** Capsule (hypromellose and water), microcrystalline cellulose, vegetable stearic acid, medium-chain triglyceride oil, vegetable magnesium stearate, and silica.

**DIRECTIONS:** Take two capsules with meals, twice daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged.

**STORAGE:** Keep closed in a cool, dry place out of reach of children.

**FORMULATED TO EXCLUDE:** Wheat, gluten, yeast, soy, dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, and artificial preservatives.

S1. Microcrystalline Hydroxyapatite Concentrate

S2. Albion®, DimaCa®, and TRAACS® are registered trademarks of Albion Laboratories, Inc. Malates covered by US patent 6,706,904.



## References

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Additional references available upon request