Calcium Select® combines two superior forms of calcium plus vitamin D3 to help support optimum absorption and utilization of this essential mineral.

CALCIUM is best known for its importance in maintaining healthy bone structure but it is also required for the proper functioning of hormones and nerves, muscle contractions, colon health and blood pressure. Vitamin D3, which also serves many roles, enables the uptake of calcium into the body.

Adequate calcium and vitamin D intake during adolescence and early adulthood helps to optimize peak bone mass in growing bodies. During the adult years, adequate intake of these two nutrients has been shown to help slow the rate of bone loss that frequently occurs with aging. Regular exercise, particularly weight-bearing exercise, plus adequate calcium and vitamin D intake has been associated with a reduced risk of osteoporosis in post-menopausal women, elderly men and women and in people of all ages with a family history of the disease.

The two forms of calcium used in Calcium Select® are among the most well-absorbed forms available today: dicalcium malate (DimaCal®) and calcium bisglycinate chelate. These fully reacted amino acid mineral chelates, developed by Albion Laboratories, are derived from calcium that is covalently bonded to either malic acid or glycine. Chelation to an amino acid helps enhance intestinal absorption of calcium, increasing its bioavailability.

Along with bioavailable calcium, the calcium chelates in Calcium Select® provide the body with two useful amino acids: malic acid and glycine. Malic acid, a component of DimaCal®, is found naturally in many vegetables and fruits, especially apples, cherries, watermelon and plums. As malate (its negatively charged anionic form) malic acid participates in both the

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glyoxalate energy producing cycle and the Citric Acid (Krebs) Cycle to convert food energy into adenosine triphosphate (ATP), the energy currency of the body. Like calcium itself, malic acid is a natural buffering agent, making dicalcium malate extremely well tolerated. In vitro studies have found that unlike other calcium forms, e.g. calcium carbonate, DimaCal® does not form gas when subjected to stomach acid. A recent human study suggested that supplementation with malic acid helped to support systemic alkalinization and helped decrease the risk of forming calcium oxalate kidney stones. DimaCal® is comprised of 29% elemental calcium and 64% malic acid.

Glycine, the amino acid chelator in calcium bisglycinate chelate, is found abundantly in protein-rich animal foods such as meats, gelatin and bone broth. Glycine is synthesized endogenously from serine and is the smallest known amino acid with a side chain consisting of only one hydrogen atom. This fact may play a role in the superior absorption of glycinate chelates. Calcium bisglycinate chelate has exhibited nearly twice the absorption of calcium citrate when consumed away from food (44% vs 24%).

In addition to offering superior absorption compared to other forms of calcium, the amino acid calcium chelates in Calcium Select® have been shown to help maintain elevated serum calcium levels longer than other commonly used forms such as carbonate and citrate. Research published in 2006 found that in vivo, dicalcium malate exhibited the longest half life of all calcium forms studied.

VITAMIN D is required for proper calcium absorption and bone health. It enables calcium to enter the bloodstream through the intestines and also works in the kidneys to help reabsorb calcium that otherwise would be excreted. Research strongly suggests that a healthy diet-lifestyle which includes adequate dietary intakes of calcium, vitamin D and protein along with regular weight-bearing exercise is essential to helping support healthy bones and to reducing osteoporosis risk throughout the lifespan. Calcium Select® provides a sufficient 200 IU vitamin D3 per serving to help enable the absorption of calcium in the product. For patients needing therapeutic levels of vitamin D, Moss Nutrition offers a full range of Vitamin D products, available both with and without added vitamin K.

REFERENCES

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