

# OsteoPrev



## CLINICAL APPLICATIONS

- Promotes Healthy Bone Density
- Increases Skeletal Strength
- Improves Bone Remodeling

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## MUSCULOSKELETAL HEALTH

OsteoPrev is a formulation specifically designed to promote healthy bone density. It contains Albion® TRAACS® chelated minerals, including calcium, magnesium, copper, manganese and molybdenum, for enhanced bioavailability. OsteoPrev also includes vitamins D and K, as well as phytonutrients, to support bone health and increase skeletal strength.

### Overview

Bone mineral density (BMD) is a major determinant of bone mass and is the most commonly measured quality of bone. A number of factors contribute to BMD including lifestyle factors (regular physical activity, not smoking, minimizing stress levels) and maintaining hormonal balance. Consuming a healthy diet and ensuring optimal levels of bone-building vitamins and minerals are key strategies for preserving bone strength.

BMD is determined by a lifelong process called bone remodeling. Bone remodeling occurs when bone tissue is removed from the skeleton (bone resorption) and new bone tissue is formed. Osteoclasts are cells involved with breaking down bone, while osteoblasts create a protein matrix primarily of collagen, resulting in the remineralization of bone and thereby promoting bone formation. While calcium is an effective starting point for promoting bone health, other nutrients are required for bone mineralization. Nutrients such as calcium, magnesium, boron, vitamin K and D, and trace minerals significantly enhance the bone mineralization process.

### Ipriflavone†

Isoflavones are plant-based compounds that resemble estrogen at the molecular level. In the bone tissue, isoflavones act as balanced, estrogen-like hormones which activate osteoblast cells, promoting new bone formation. Isoflavones

also increase cell-signaling proteins that may inhibit the bone-absorbing activity of osteoclast cells. Ipriflavone is an isoflavone derivative which has been shown in human and animal research to support bone function and strength. In a double-blind, two-year study which included 149 women (65-79 years old), the control group receiving ipriflavone (200 mg, three times per day) demonstrated increased bone strength along with improvements in bone function and mobility.<sup>1</sup>

### Calcium†

Nearly all calcium within the adult skeletal system exists as a complex paired with phosphorus, called hydroxyapatite. In 1990, the USDA published a trial comparing the inexpensive calcium carbonate with calcium citrate-malate, with respect to improved bone density, in post-menopausal women. In this trial, researchers found the citrate-malate form was significantly more effective in supporting bone health than the carbonate form.<sup>2</sup> OsteoPrev is formulated with calcium citrate-malate, as well as calcium hydroxyapatite, to improve calcium absorption and utilization for healthy bone density.

### Magnesium†

Magnesium plays a major role in bone formation as approximately 50% of the body's magnesium is found in the bone. Magnesium plays numerous roles in bone health including increasing calcium absorption, acting as a cofactor for alkaline phosphatase activation, and supporting vitamin D3 conversion in the body. Magnesium deficiency is very common—many Americans fail to acquire even the estimated average requirement (EAR).<sup>3</sup> Magnesium deficiency can also be exacerbated due to factors such as long-term stress and excess consumption of alcohol, salt, coffee and phosphoric

† 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.

**EFFICACY**  
the power of *e*

acid in sodas.<sup>4</sup> In a study examining the effects of magnesium in a group of postmenopausal women, supplementation with 250 to 750 mg/day of magnesium for six months, followed by 250 mg/day for six to 18 months, resulted in significant bone-enhancing effects in 71% of the women.<sup>5</sup> This increase was a significant finding that reflects the importance of magnesium supplementation alone (without calcium) as a crucial mineral for supporting bone health.

**Vitamin D3 (Cholecalciferol)<sup>†</sup>**

Vitamin D is a steroid vitamin known for its role in supporting bone health and aiding in the absorption of calcium and phosphate from the GI tract. Emerging research shows a direct correlation between bone mineral density and serum levels of 25(OH)D3, the active form of vitamin D.<sup>6</sup> In one 2013 study, 52 overweight men and women with suboptimal vitamin D levels were given either 7,000 IU of cholecalciferol (D3) daily or a placebo for 26 weeks. The vitamin D group had significantly increased vitamin D levels in the blood and improved biomarkers of bone health.<sup>7,8</sup>

**Vitamin K1 (Phytonedione) and Vitamin K2 (Menaquinone)<sup>†</sup>**

Vitamin K is responsible for synthesizing osteocalcin, a protein involved in calcium transport and properly embedding calcium into bone tissue. Vitamin K has also been shown to decrease the activity of osteoclasts, helping to maintain bone formation and strength.<sup>9</sup> Vitamin K works synergistically with vitamin D3 to improve calcium absorption and helps to bind newly absorbed calcium to the bone matrix. In one study, 244 non-osteoporotic women received either: 200 mcg/day vitamin K; 400 IU/day vitamin D3 plus 1 g/day calcium; combined treatment of vitamin K, D3 and calcium; or placebo in a two-year, double-blind study. Those receiving the combined treatment had significant increases in markers of bone health.<sup>10</sup>

**Boron<sup>†</sup>**

Boron supplementation reduced urinary excretion of calcium and magnesium and increased blood levels of 17 beta-estradiol and testosterone in postmenopausal women.<sup>11</sup> Improving boron levels has been shown to support skeletal strength.<sup>12</sup>

**Phosphorus<sup>†</sup>**

Phosphorus plays a role in bone mineralization and is a component of hydroxyapatite crystals in bone. A study examining the effects of calcium intake on the absorption of dietary phosphorus found that, as calcium ingestion increases, phosphorus absorption decreases. Supplementation with a calcium phosphate preparation is recommended for maintaining optimal bone mineral density and preventing calcium-induced phosphorus deficiency.

**Directions**

4 capsules per day in divided doses or as recommended by your health care professional.

**Does Not Contain**

Gluten, yeast, artificial colors or flavors.

**Cautions**

Do not consume this product if you are pregnant or nursing. All forms of vitamin K may interact with blood thinning medications. If you are taking such medicines, please consult your physician before taking this product.

| Supplement Facts                                                                                                   |                    |               |
|--------------------------------------------------------------------------------------------------------------------|--------------------|---------------|
| Serving Size 4 Capsules<br>Servings Per Container 30                                                               |                    |               |
|                                                                                                                    | Amount Per Serving | % Daily Value |
| Vitamin D (D3 as Cholecalciferol)                                                                                  | 25 mcg (1,000 IU)  | 125%          |
| Vitamin K (K1 as Phytonadione)                                                                                     | 435 mcg            | 363%          |
| Folate (from 800 mcg as Quatrefolic® (6S)-5-Methyltetrahydrofolic acid glucosamine salt)                           | 1,360 mcg DFE      | 340%          |
| Calcium (as Calcium Hydroxyapatite, Dicalcium Malate (Albion®))                                                    | 250 mg             | 19%           |
| Phosphorus (as Calcium Hydroxyapatite)                                                                             | 110 mg             | 9%            |
| Magnesium (as DiMagnesium Malate (Albion®), Magnesium Citrate USP, Magnesium Lysinate Glycinate Chelate (Albion®)) | 150 mg             | 36%           |
| Selenium (as Selenium Glycinate) (Albion®)                                                                         | 200 mcg            | 364%          |
| Copper (as Copper Bisglycinate Chelate) (Albion®)                                                                  | 1 mg               | 111%          |
| Manganese (as Manganese Bisglycinate Chelate) (Albion®)                                                            | 10 mg              | 435%          |
| Molybdenum (as Molybdenum Glycinate Chelate) (Albion®)                                                             | 150 mcg            | 333%          |
| Ipriflavone                                                                                                        | 600 mg             | *             |
| Boron (as Bororganic Glycine) (Albion®)                                                                            | 5 mg               | *             |
| Vitamin K2 (as Menaquinone-7 (MK-7)) (MenaQ7®PRO)                                                                  | 90 mcg             | *             |
| * Daily Value not established.                                                                                     |                    |               |

Other Ingredients: Hypromellose (Natural Vegetable Capsules), Microcrystalline Cellulose, Magnesium Stearate and Silicon Dioxide.

**ID# 567120 120 Capsules**

**MenaQ7 PRO**

MenaQ7® is a registered trademark of Lesaffre et Compagnie, France.

## References

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