

# Pro Bono

## Product #350

Supplement Facts		
Serving Size: 2 Packets Servings Per Container: 30		
2 packets contain	Amount Per Serving	% Daily Value
Vitamin D3 (as Cholecalciferol)	1,000 IU	250%
Vitamin K (500 mcg K1, 25 mcg K2 as MK7)	525 mcg	656%
Folic Acid	800 mcg	200%
Calcium (as Hydroxyapatite, Di-Calcium Malate)	1,200 mg	120%
Phosphorus (as Calcium Hydroxyapatite, Chelate)	450 mg	45%
Magnesium (as Aspartate, TRAACS® Magnesium Glycinate Chelate Buffered, Citrate)	400 mg	100%
Selenium (as Selenium Glycinate Complex)	200 mcg	286%
Copper (as TRAACS® Copper Lysinate Chelate)	1 mg	50%
Manganese (as TRAACS® Manganese Glycinate Chelate)	10 mg	500%
Molybdenum (as TRAACS® Molybdenum Glycinate Chelate)	150 mcg	200%
Ipriflavone	600 mg	*
Boron (as Proteinates)	5 mg	*

\* % Daily Value not established

### OTHER INGREDIENTS:

Natural Vegetable Capsules and Turmeric Root Extract. This product may contain one or more of the following: Calcium Silicate, Magnesium Stearate, Microcrystalline Cellulose and Silicon Dioxide.

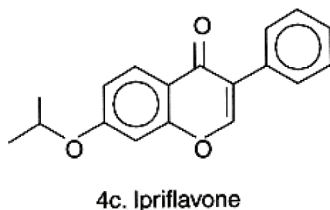
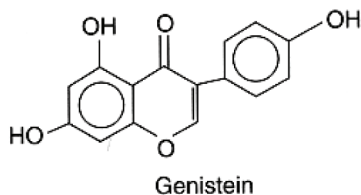
### PRODUCT RATIONALE:

These packets are intended to conveniently contain all the necessary components for maximum bone mineral density and strength.

### INGREDIENT INFORMATION:

#### Ipriflavone

- Ipriflavone is an isoflavone derivative which has proven in animal and human research to enhance bone function and strength- particularly in counteracting bone loss during menopause.



- Enhances Calcium Transport.<sup>1</sup>
- Regulate the differentiation and biosynthetic properties of human bone-forming cells in vitro.
- Increase expression of proteins important to bone matrix deposition and facilitates the process of mineralization.<sup>2</sup>
- Ipriflavone studies in women with established osteoporosis show consistent increases (or maintaining) of BMD, a reduction in fracture rate and a decrease in markers of bone resorption.<sup>3,4</sup>

#### Vitamin D3 (Cholecalciferol)

- Vitamin D is a hormone-like vitamin which acts to regulate calcium absorption (in the gut) and incorporation into bone. Deficiencies of Vitamin D are common in the elderly and inversely related bone mineral density and fracture rates in postmenopausal women. Vitamin D intake reduces falling in elderly by an average of 22%.<sup>5</sup>

#### Vitamin K1 (Phytonedione)

- Vitamin K is a coenzyme for the enzyme responsible for synthesizing osteocalcin, a protein involved in attracting calcium ions into bone tissue. Low circulating Vitamin K is associated with decreased BMD and increased fractures.<sup>6</sup>
- 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 2 year double-blind study. Those receiving the combined treatment had a modest but significant increase in BMC and BMD at the ultradistal radius.<sup>7</sup>

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. The information provided here is intended to help health care professionals make informed decisions about recommending this product safely and effectively.

## Vitamin K2 (Menaquinone)

- Among the vitamin K family, K2 has been found to have the most potent gamma-carboxylation activity, found in osteocalcin.<sup>8</sup>
- High levels of vitamin K are needed for the total gamma-carboxylation of osteocalcin.<sup>9</sup>
- Both vitamin K1 and K2 are well absorbed, however, MK7 has a longer half life which results in more stable serum levels of vitamin K2.<sup>10</sup>

## Boron

- Boron is known to be involved the functions of Ca, K, P, Mg and Vitamin D. Deficiencies in Boron in both animals and humans is linked with bone abnormalities.<sup>11</sup>

## DOSING:

As a dietary supplement, 2 packets per day with a meal. Maintenance: 1 packet per day with a meal or as recommended by your health care professional.

## CONTRAINDICATIONS—WARNINGS:

Class 1. Caution is advised for those taking digoxin or any cardiac glycoside and those taking Warfarin or other blood thinning medications. This product contains soy and corn allergens.

## REFERENCES:

1. Arjmandi, B.H.; Khalil, D.A.; and Hollis, B.W. Ipriflavone, a synthetic phytoestrogen, enhances intestinal calcium transport in vitro. *Calcif Tissue Int.* 2000; 67(3):225-229.
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5. Bischoff-Ferrari, H.A.; wson-Hughes, B. et al. Effect of Vitamin D on falls: a meta-analysis. *JAMA.* 2004; 291(16):1999-2006.
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7. Bolton-Smith, C.; McMurdo, M.E. et al. Two-year randomized controlled trial of vitamin K1 (phylloquinone) and vitamin D3 plus calcium on the bone health of older women. *J Bone Miner Res.* 2007; 22(4):509-519.
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10. Schurgers, L.J.; Teunissen, K.J. et al. Vitamin K-containing dietary supplements: comparison of synthetic vitamin K1 and natto-derived menaquinone-7. *Blood.* 2007; 109(8):3279-3283.
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