

## Vitamin D

Serving Size 1 capsule Servings Per Container 90

	Amount Per Serving	
Vitamin D3 (cholecalciferol)	1000 IU	
OTHER INGREDIENTS: Rice flour, cellulose.		
SUGGESTED USE: As a dietary supplement, take 1-2 capsules per day or as directed by your bealthcare professional		

Vitamin D 4000 Serving Size 1 capsule Servings Per Container 90		
	Amount Per Serving	
Vitamin D3 (cholecalciferol)	4000 IU	
OTHER INGREDIENTS: Rice flour, cellulose.		
SUGGESTED USE: As a dietary supplement, take 1-2 capsules per day or as directed by your healthcare professional.		

**CONTRAINDICATIONS:** Vitamin D is contraindicated in those with hypercalcemia and in those with evidence of vitamin D toxicity.

PRECAUTIONS: Pregnant women and nursing mothers should use caution with vitamin D supplemental intakes greater than U.S. RDA amounts of the vitamin unless higher amounts are prescribed by their physicians. The current U.S. RDA for vitamin D is 400 IU or 10 mcg daily.

INTERACTIONS: Supplemental levels of vitamin D above the U.S. RDA should be used with caution in those on digoxin or any cardiac glycoside. Hypercalcemia in those on digoxin may precipitate cardiac arrhythmias. Use of thiazide and pharmacologic doses of vitamin D may cause hypercalcemia in some.

TOXICITY: Dosage of vitamin D up to 60 mcg (2,400 IU)/day in healthy individuals rarely causes adverse reactions. Chronic doses of 95 mcg (3.800 IU)/day or greater in healthy individuals may cause hypercalcemia.

se statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

## VITAMIN D AVAILABLE AS 1000 IU/4000 IU VITAMIN D3 PLAYS AN INTEGRAL ROLE IN CALCIUM ABSORPTION AND BONE HEALTH\*

- Immunomodulatory\*
- Supports healthy immune function\*
- Supports healthy skin\*
- Cytokine modulator\*
- Supports healthy cartilage and joints\*
- Supports healthy vascular tone\*
- May support healthy blood lipid levels\*

VITAMIN D is mostly attained through the skin's exposure to sunlight. Cholecalciferol, also known as vitamin D3, is formed from 7-dehydrocholesterol in the skin after exposure to UV light. Unfortunately, due to the risk of skin cancer, many individuals are limiting sunlight exposure or using liberal amounts of sun protective factors (SPF) in sun screen lotions, both of which limit vitamin D production in the skin. In the body, cholecalciferol is hydroxylated to calcidiol in the liver and then to calcitriol, the active form of vitamin D, in the kidneys. The active form of vitamin D works with parathyroid hormone and calcitonin to regulate serum calcium and phosphorus concentrations.\*

Vitamin D deficiency causes increased parathyroid hormone activity which acts to maintain serum calcium and phosphate concentrations at the expense of skeletal calcium. \*

Vitamin D contributes to bone health. Various studies have found an association between low serum levels of vitamin D and joint disorders as well as decreased bone density. In addition, risk for progression of these disorders increases substantially with both low vitamin D intake and decreased serum levels. Some of the best results obtained in studies on bone health have supplemented patients with 700 - 800 IU vitamin D per day, considerably higher than the recommended 400 IU per day. The best results were obtained when vitamin D was given with calcium.\*



SYMPTOMS OF HYPERCALCEMIA INCLUDE: Nausea, vomiting, weakness, headache, somnolence, dry mouth, constipation, metallic taste, muscle pain, and bone pain. Late symptoms include polyuria, polydipsia, anorexia, weight loss, nocturia, conjunctivitis, pancreatitis, photophobia, rhinorrhea, pruritus, hyperthermia, decreased libido, elevated BUN, albuminuria, hypercholesterolemia, elevated ALT (SGPT), and AST (SGOT), ectopic calcification, nephrocalcinosis, hypertension, and cardiac arrhythmias.

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## VITAMIN D AVAILABLE AS 1000 IU/4000 IU

Vitamin D also provides immune and anti-inflammatory support. One researcher described vitamin D as a flexible bidirectional immunomodulator. The cytokines interleukin 1 (IL-1) and interleukin 2 (IL-2) appear to be favorably regulated under the influence of vitamin D.\*

Benefits of vitamin D extend to skin health. Topical vitamin D analogues have been shown effective in treatment of certain skin disorders. Vitamin D has anti-proliferative activity on keratinocytes and stimulates epidermal cell differentiation.\*

Additionally, epidemiological data indicates that a low vitamin D status is associated with vascular disorders. Clinical studies have demonstrated an inverse relationship between circulating vitamin D levels and plasma rennin activity. It should also be noted that vitamin D has been shown to inhibit lipid peroxidation.\*