



Super D3

Cholecalciferol with C and E

The term vitamin D refers to vitamin D2, vitamin D3 as well as to their metabolites and analogues. Vitamin D2 (ergocalciferol) is derived from fungal and plant sources; vitamin D3 (cholecalciferol) is derived from animal sources. Super D3 is derived from lanolin, from sheep's wool. Vitamin D usually acts as a hormone precursor, requiring two stages of metabolism before reaching hormonal form. Following absorption or endogenous synthesis, it is metabolized to 25- hydroxycholecalciferol (25(OH)D) in the hepatocytes. 25(OH)D is the major circulating form of vitamin D, but is not biologically active. Then, the biologically active hormone form, 1 alpha, 25-dihydroxycholecalciferol (1,25(OH)2D) is produced in the kidneys. Vitamin D receptors exist in a wide variety of tissues and organs.

Key Features

- Promotes gut absorption and normal blood levels of calcium and phosphorus*
- Supports bone mineralization and skeletal health*



SKU #74840
60 vegetarian capsules

Super D3

In March 1998, the New England Journal of Medicine published the surprising results of a study by researchers from Harvard, which found a prevalence of vitamin D deficiency not only among elderly people with low vitamin D intake, but in patients less than 65 years of age without any apparent risk factors for hypovitaminosis D. Hypovitaminosis D was found in 42% of 1546 African American women who participated in the study. Even among 243 subjects who consumed 200 IU daily from supplements, the prevalence of hypovitaminosis D was 28%. It has been estimated that as much as 40% of the U.S. population may be deficient in vitamin D, and this deficiency is prevalent in much of the world, in the young and old. It appears that vitamin D deficiency is so common because of increasingly limited exposure to sunlight and inadequate dietary intake of vitamin D.

The primary source of vitamin D3 is sunlight, which converts 7-dehydrocholesterol in the skin to vitamin D3 via photochemical reactions using ultraviolet B radiation (UV-B). Numerous factors such as latitude, season, air pollution, pigmentation of skin, and sunscreen affect UV-ray exposure. The US is between 30° and 45° latitude, and six months or more of each year has insufficient UV-B sunlight to produce optimal D levels. People with dark skin produce less vitamin D since melanin, a skin pigment, acts as a natural sunscreen, absorbing UV radiation. Only a few foods naturally contain vitamin D: fatty fish, fish liver oils and eggs from hens that have been fed vitamin D. Fortified foods, such as milk and breakfast cereals, are the major sources of dietary vitamin D intake.

The principal direct toxic effects of too much vitamin D are excessive absorption of calcium and phosphorus from the intestine and resorption of calcium and phosphorus from bone. The prolonged ingestion of excessive amounts of vitamin D and accompanying hypercalcemia can result in metastatic calcification of soft tissues, including the kidneys, blood vessels, heart and lungs. There is a wide variation among individuals in their tolerance to toxicity. In general, chronic ingestion of 50,000 IU to 100,000 IU daily of vitamin D is required to produce hypercalcemia.

In 2011, the U.S. National Academy of Sciences updated the recommendations for vitamin D intake. The Recommended Dietary Allowance (RDA) for males and females, ages 1 through 70, is 600 IU per day. Over 70 years of age, the RDA is 800 IU per day. They also defined a tolerable upper limit intake level (UL) as the highest average daily intake of a nutrient that is likely to pose no risk of adverse health effects for nearly all persons in the general population. For infants to 6 months old: 1,000 IU; 6-12 months, 1,500 IU. For children 1-3 years old, 2,500 IU; 4-8 years, 3,000 IU. For children 9+ years old and adults, 4,000 IU. However, some researchers argue that the RDAs and ULs are too limited. Testing of plasma 25(OH)D concentration is considered the best way to determine the level of vitamin D and to monitor vitamin D supplementation.

Vitamin D is the principal regulator of calcium homeostasis in the body, and it is essential for skeletal development and for bone mineralization.* A number of studies have reported significant benefits from supplemental vitamin D in supporting bone health.* Along with the classic role it plays in regulation of bone mineralization and serum calcium levels, vitamin D has been increasingly recognized to play important roles in the regulation of blood sugar within normal levels, and supporting normal muscle strength, the health of connective tissue, and the gastrointestinal, immune, circulatory, and respiratory systems.*

References:

- Thomas MK, et al. N Engl J Med 1998; 338:777-83.
Nesby-O'Dell S, et al. Am J Clin Nutr 2002;76:187-92.
Rucker D, et al. Can Med Ass J 2002; 166:1541-2.
Lambert-Allardt CJ, et al. J Bone Miner Res 2001; 16:2066-73.
Harris SS, et al. J Clin Endocrinol Metab 2000; 85:4125-30.
Fairfield KM, Fletcher RH. JAMA 2002; 287:3116-26.
Malabanan A, et al. Lancet 1998, 351:805-6.
Madelenat P, et al. J Gynecol Obstet Biol Reprod (Paris) 2001; 30: 761-7
Veith R. Am J Clin Nutr 1999; 69:842-56.
Veith R, Chan P-CR, et al. Am J Clin Nutr 2001; 73:288-94.
Chapuy MC, et al. N Engl J Med 1992; 327:1637-42.
Dawson-Huges B, et al. N Engl J Med 1997; 337:670-6. LeBoff MS, et al. JAMA 1999; 281:1505-11.
Pfeifer M, Begerow B, et al. Osteoporos Int 2002; 13:187-94.
Prabhala A, et al. Arch Intern Med 2000; 160:1199-203.
Friedrich MJ. JAMA 1999; 282:1023-5.
McAlindon TE, et al. Ann Intern Med 1996; 125:353-9.
Basha B, et al. Am J Med 2000; 108:296-300.
Luscombe CJ, et al. Lancet 2001; 358:641-2.
Hansen CM, et al. Front Biosci 2001; 6:D820-48.
Koren R, et al. Cancer Res 2001; 61:1439-44.
Mokady E, et al. Nutr Cancer 2000; 38:65-73.
Tangpricha v, et al. Lancet 2001; 357:1673-4
Boucher BJ. Br J Nutr 1998; 79:315-27.
Hypponen E, et al. Lancet 2001; 358:1500-3.
Wilkinson RJ, et al. Lancet 2000; 355:618-21.

Supplement Facts

Serving Size	1 Capsule	
Servings Per Container	60	
Amount Per Serving	% Daily Value*	
Vitamin C (as Ascorbyl Palmitate)	2 mg	2%
Vitamin D3 (as 2000 IU of Cholecalciferol)	50 mcg	250%
Vitamin E (as d-alpha tocopheryl acid succinate) (sunflower)	4.25 mg	28%
Tocotrienols	0.5 mg	†

† Daily Value not established.* Percent Daily Value are based on a 2,000 calorie diet.

Other ingredients: Hydroxypropyl methylcellulose, mixed tocopherols, rice flour, silicon dioxide.

Suggested Use: As a dietary supplement, 1 capsule daily or as directed by a healthcare practitioner. Do not exceed recommended dose without proper blood monitoring.