



THE NATURAL, VEGAN SOLUTION FOR VITAMIN D SUPPLEMENTATION

Vitamin D refers to a group of fat-soluble micronutrients produced by the human body when skin is exposed to ultraviolet (UV) light. Vitamin D can be also obtained from the diet, but it occurs only in a small range of foods (fish liver oils, meat liver, eggs etc.). Several factors can limit the amount of Vitamin D in our body, leading to a Vitamin D deficiency in most parts of the world.

LALMIN® VITA D: THE NATURAL SOURCE OF VITAMIN D

Lalmin® Vita D is dried, fermented and inactivated whole cell yeast (Saccharomyces cerevisiae) containing naturally elevated levels of vitamin D. Subjected to UV-light under controlled conditions; the active yeast is able to produce Vitamin D2 from its endogenous ergosterol.

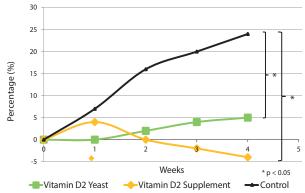
• Natural Enhancement of the content of Vitamin D in yeast

- Preservation of the level of **vitamins**, **minerals** and other micronutrients naturally present in yeast
- Lalmin® Vita D contains 200µg (8000 IU) vitamin D per 1g. **70mg** will provide 15µg of vitamin D.
- Lalmin® Vita D 2M contains 500µg (20,000 IU) vitamin D per 1g. 35mg will provide 15µg of vitamin D.

VITAMIN D YEAST IS BIOAVAILABLE IN HUMANS (1)

In this study, 38 healthy women were given either Vitamin D2 from yeast or from a supplement (25 µg or 1000 IU) daily for four weeks. Serum 25-hydroxyvitamin D concentrations were measured as a marker of Vitamin D status in the body.

Percentage of Decrease in 25-OHD Relative to Initial 25-OHD Level (%)



When comparing levels of serum 25-hydroxyvitamin D at baseline and again at 4 weeks, the results showed:

Vitamin D2 from yeast or from a supplement had the same effect on serum 25-hydroxyvitamin D levels during the 4-week trial. Both contributed to an increased level during the study.

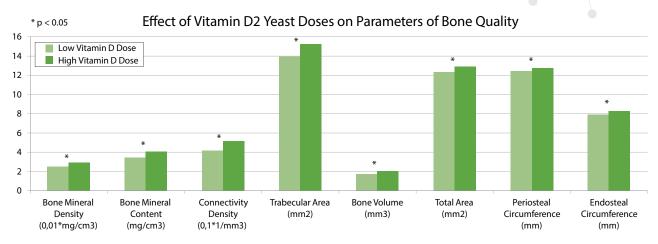






VITAMIN D YEAST IMPROVES BONE HEALTH(2)

The bioavailability and efficacy of vitamin D in an 8 week dose-response study of bread made with vitamin D2-rich yeast compared to crystalline vitamin D3 in growing, vitamin D-deficient rats was assessed. Both sources of vitamin D were shown to be equally effective in improving bone quality.



VITAMIN D: APPROVED HEALTH CLAIMS(3)

According to the European claim regulation - Article 13.1 of Regulation (EC) No 1924/2006: Rats fed with the highest doses of vitamin D2 yeast had significantly greater (p <0.05) bone parameter results compared to rats fed with lower doses.

These parameters have also been measured for the highest doses of crystalline vitamin D3 and no significant difference due to the vitamin D source has been shown: **Both sources of vitamin D** are equally effective at improving bone density.

Calcium absorption	Vitamin D contributes to normal absorption/utilization of calcium and phosphorus and maintenance of normal blood calcium concentrations
Bones and teeth	Vitamin D contributes to normal development of bones and teeth
Immunity	Vitamin D contributes to the normal function of the immune system
Muscle health	Vitamin D contributes to the maintenance of normal muscle function
Cadiovascular	Vitamin D contributes to the maintenance of normal cardiovascular function
Bone Growth	Vitamin D is needed for normal growth and development of bone in children
Falling and fractures	Vitamin D may reduce the risk of falling. Falling is a risk factor for bone fractures













References

- $1. \ \textit{Bioavailability} of \textit{Vitamin} \ \textit{D} \ \textit{from} \ \textit{Bread} \ \textit{made} \ \textit{with} \ \textit{Vitamin} \ \textit{D} \ \textit{Baker's} \ \textit{Yeast}. \ \textit{University} \ \textit{of} \ \textit{Helsinki}$
- 2. Hohman E. et al., 2011. Bioavailability and Efficacy of Vitamin D2 from UV Irradiated Yeast in Growing, Vitamin D Deficient Rats. Journal of Agricultural and Food Chemistry.
- $3. \ \textit{EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on the substantiation of health claims related to vitamin D. and the substantiation of the substan$

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