

کپسولز

# ڈی-زیک 5

# ڈی-زیک 50

وٹامن ڈی تھری (کولی کیلسیفرول)

خوراک:

ڈی-زیک 5: ایک کپسول روزانہ یا ڈاکٹر کی ہدایات کے مطابق استعمال کریں۔

ڈی-زیک 50: ایک کپسول ہفتے میں ایک مرتبہ یا ڈاکٹر کی ہدایات کے مطابق استعمال کریں۔

ہدایات:

\* دوا کو ٹھنڈی (۲۵ سینٹی گریڈ درجہ حرارت سے کم) اور خشک جگہ پر رکھیں۔

\* دوا کو گرمی، روشنی اور نمی سے محفوظ رکھیں۔

\* تمام دوائیں بچوں کی پہنچ سے دور رکھیں۔

پیشکش:

ڈی-زیک 5 (۳۰ کپسولز) پلاسٹک بوتل میں دستیاب ہیں۔

ڈی-زیک 50 (۱۰ کپسولز) پلاسٹک بوتل میں دستیاب ہیں۔

This product is for nutritional purpose and no therapeutic claims for diagnosis, treatment, cure or prevention of any disease are made.

Manufactured for:



**Schazoo Zaka (Pvt) Ltd.**

Kalalwala, 20-Km Lahore-Jaranwala Road,  
Distt: Sheikhpura, Pakistan.

As per Drug Act 1976, this product is not an allopathic drug.

Prepared in accordance with provisions of pure food ordinance 1960.

Capsules

# D-ZAK 5

# D-ZAK 50

Vitamin D<sub>3</sub> (Cholecalciferol)

**DESCRIPTION:**

D-ZAK 5 and D-ZAK 50 contains vitamin D<sub>3</sub> (Cholecalciferol) stored in the body's fatty tissue.

**COMPOSITION:**

Each D-ZAK 5 capsule contains,  
Vitamin D<sub>3</sub> (Cholecalciferol) ..... 5000 IU  
Each D-ZAK 50 capsule contains,  
Vitamin D<sub>3</sub> (Cholecalciferol) ..... 50000 IU

**CLINICAL PHARMACOLOGY:**

**Mechanism of Action:**

After its administration and absorption, Cholecalciferol is converted to 25(OH) D<sub>3</sub> (Calcidiol) in liver and then in kidney it is converted to 1, 25(OH)<sub>2</sub> D<sub>3</sub> (Calcitriol) which is the active form of vitamin D<sub>3</sub>. The mechanism of action of Calcitriol is mediated by the interaction of Calcitriol with the vitamin D receptor (VDR). Vitamin D<sub>3</sub> augments absorption and retention of Calcium and Phosphate. It acts to maintain normal concentrations of Calcium and Phosphate in plasma by facilitating their absorption through small intestine by interacting with parathyroid hormone to enhance their mobilization from bone and by decreasing their renal excretion. It also exerts direct physiological and pharmacological effects on bone mineralization.

**Pharmacokinetics:**

**Absorption:**

Vitamin D<sub>3</sub> is absorbed from the small intestine. Most of the vitamin appears first within chylomicrons in lymph. Bile and fatty diet is essential for adequate absorption of vitamin D<sub>3</sub>.

**Distribution:**

Absorbed vitamin D<sub>3</sub> circulates in the blood in association with "General class binding protein" a specific globulin and is stored in fat depots for prolonged periods and normal steady state concentration of 15 to 50ng/ml.

**Metabolism:**

The initial step in vitamin D<sub>3</sub> activation occurs in the liver, where cholecalciferol is hydroxylated on the 25-position to generate 25-OH-cholecalciferol (25-OHD, or calcifediol). 25-OHD is the major circulating form of vitamin D<sub>3</sub>. Final activation to calcitriol occurs primarily in the kidney but also takes place in other sites, including keratinocytes and macrophages.

**Excretion:**

The primary route of vitamin D<sub>3</sub> excretion is the bile; only a small percentage is found in the urine. The vitamin D<sub>3</sub> disappears from plasma with a half-life of 19 to 25 hours.

**INDICATIONS:**

Vitamin D<sub>3</sub> helps the intestine to absorb nutrients including calcium & phosphorus. This ensures strong bones and strong immune system.

**Bones & Muscles:**

- Vitamin D<sub>3</sub> prevents Rickets.
- It should be given to Breast-fed infants who lack exposure to sunlight, as well as dark-skinned individuals.
- Vitamin D<sub>3</sub> prevents Osteomalacia.
- Vitamin D<sub>3</sub> provides calcium balance in the body that prevents Osteoporosis and Osteoarthritis.
- Vitamin D<sub>3</sub> prevents bone fractures & falls in elderly.
- Vitamin D<sub>3</sub> ensures strong bones and strong immune system, preventing autoimmune diseases. (Rheumatoid Arthritis)
- Vitamin D<sub>3</sub> relieves body aches and pains by reducing muscle spasms & muscle weakness.
- Vitamin D<sub>3</sub> prevents senile or postmenopausal osteoporosis.

- Patients with Multiple sclerosis are likely to have bone diseases so vitamin D<sub>3</sub> helps to improve bone health.

**CARDIOVASCULAR SYSTEM**

- Regulates blood pressure & blood cholesterol.
- Improves cardiovascular strength by providing a protective lining for the blood vessels & prevents cardiovascular diseases.

**DIABETES**

- Prevents diabetes (Type 2)

**RESPIRATORY SYSTEM**

- Reduces respiratory infections & risk of childhood respiratory problems.
- Reduces chronic obstructive pulmonary disease, asthma & bronchitis.
- Prevents Colds & influenzae.
- Protects smoker's lung function.

**TUBERCULOSIS**

- Vitamin D<sub>3</sub> accelerates recovery from Tuberculosis.

**CANCER**

- Prevents cancer by regulating the production of proteins that are responsible for cancerous cell division and growth.
- Prevents non specific pains in bones and muscles as well as feeling of weakness in cancer patients.

**PREGNANCY**

- Vitamin D<sub>3</sub> minimizes the risk of pre-eclampsia.
- Prevents backache & leg cramps.

**DEPRESSION**

- Reduces stress and tension
- Helps fight depression & seasonal affective disorder

**OTHERS**

- Improves overall skin health by reducing wrinkles, makes skin soft, strong and smooth.
- Used to control & treat obesity.
- Reduces susceptibility to tooth & gum diseases.
- Used to treat conditions in which calcium is not used properly by the body [e.g. obstructive jaundice, steatorrhea...etc].
- Prevents autism
- Useful for the treatment of Hypoparathyroidism.

**MANIFESTATION & TREATMENT OF VITAMIN D INSUFFICIENCY AND DEFICIENCY:**  
The acceptable value of 25(OH)D is greater than 50 nmol/L.

Serum 25 (OH) D concentration	Vitamin D status	Manifestation	Management & Dosage
Below 25nmol/L	Deficient	Rickets, Osteomalacia	Treat with booster dose vitamin D One D-Zak 50 capsule once a week for 14 weeks.
Between 25-50nmol/L	Insufficient	Associated with disease risk	Vitamin D supplementation One D-Zak 5 capsule daily.
Between 50-75nmol/L	Adequate	Healthy	Life style advice
Above 75nmol/L	Optimal	Healthy	None

**DOSAGE AND ADMINISTRATION:**

D-ZAK 5: As supplement take one capsule daily or as directed by the physician.  
D-Zak 50: In vitamin D<sub>3</sub> deficiency take one capsule per week or as directed by the physician.

**Dosage according to conditions:**

- Lactating women (vitamin D deficient) require 5000 IU (one capsule of D-Zak 5) daily to ensure that breast milk contains enough vitamin D<sub>3</sub> to prevent the infants getting vitamin D<sub>3</sub> deficient.
- For multiple sclerosis 10,000 IU taken daily for 12 weeks (2 capsules daily of D-Zak 5).
- For Rheumatoid Arthritis 50,000 IU of vitamin D (one capsule of D-Zak 50) per week.
- According to Bone & Cancer Foundation: Cancer patients whose level of vitamin D is too low (below 30ng/ml) should receive 50,000 I.U of vitamin D once in a week for 8 weeks.

**CONTRAINDICATIONS:**

There are no reports of allergic reactions to Vitamin D<sub>3</sub> and the possibility of toxicity is extremely unlikely.

Vitamin D<sub>3</sub> is contraindicated in patients with hypercalcemia or metastatic calcification. Patients with hypercalcemia or hyperparathyroidism should not take vitamin D<sub>3</sub> without consulting their physician. Relative contraindications include primary hyperparathyroidism, renal stones and severe hypercalcaemia.

**PRECAUTIONS & WARNINGS:**

- Pregnancy and breast-feeding:** Vitamin D<sub>3</sub> is likely safe during pregnancy and breast feeding in doses advised by the physician.
- Vitamin D<sub>3</sub> may increase calcium levels in the following conditions.
  - Kidney disease
  - Sarcoidosis
  - Histoplasmosis
  - Hyperparathyroidism Lymphoma

**MONITORING:**

- In vitamin D<sub>3</sub> deficiency 25(OH) D should be re-checked 12 weeks after commencing high dose replacement treatment in order to monitor response.
- It is not necessary to monitor 25(OH) D in vitamin D<sub>3</sub> insufficiency where low dose treatment is given.
- In patients with renal failure, serum calcium should be checked regularly for a few weeks after starting treatment.
- Once vitamin D<sub>3</sub> deficiency is corrected, once a year monitoring may be advisable for patients still considered at risk.

**DRUG INTERACTIONS:**

- The following medications increase the metabolism of vitamin D<sub>3</sub> and may decrease serum vitamin D<sub>3</sub> levels:**
  - Phenytoin, Fosphenytoin, Phenobarbital, Carbamazepine are epileptic drugs that increase vitamin D<sub>3</sub> requirement.
  - Rifampicin may reduce the efficacy of vitamin D<sub>3</sub>.

**The following medications should not be taken at the same time as vitamin D<sub>3</sub> because they can decrease the intestinal absorption of vitamin D<sub>3</sub>:**

- Cholestyramine, colestipol, orlistat, mineral oil and the fat substitute Olestra.
- The oral anti-fungal medication, ketoconazole, inhibits the 25(OH) D<sub>3</sub>-1-hydroxylase enzyme and has been found to reduce serum levels of 1, 25(OH) D in healthy person.
- The induction of hypercalcaemia by toxic levels of vitamin D<sub>3</sub> may precipitate cardiac arrhythmia in patients on digitalis.
- Hypermagnesemia may develop when magnesium containing antacids are used concurrently with vitamin D<sub>3</sub>.
- Use of vitamin D<sub>3</sub> and calcium together may alter inflammatory response.
- Use of corticosteroids can cause osteoporosis and calcium depletion with long term administration.

**SIDE EFFECTS:**

Vitamin D<sub>3</sub> is likely safe when taken orally in recommended doses. Mostly people do not experience side effects with vitamin D<sub>3</sub> unless too much is taken. Some side effects of taking too much vitamin D<sub>3</sub> include weakness, fatigue, sleepiness, headache, loss of appetite, dry mouth, metallic taste, nausea, vomiting, and others.

**OVER DOSAGE AND MANAGEMENT:**

Symptoms include increased risk of urinary tract infections, decreased appetite, weight loss, hypercalcaemia and hypercalcaemia. Mostly patients with vitamin D<sub>3</sub> toxicity recover fully by simply withdrawal of vitamin D<sub>3</sub> therapy and practicing strict sun avoidance.

**STORAGE CONDITIONS:**

Store in a cool and dry place at a temperature below 25°C.  
Protect from heat, light and moisture.  
Keep all medicines out of the reach of children.

**PACKING:**

D-ZAK 5 (30 capsules) are available in plastic bottle.  
D-ZAK 50 (10 capsules) are available in plastic bottle.