

COMPOSITION: Each ml contains: Vitamin D₃ BP/USP5 mg (200000 IU)

DESCRIPTION: Vitamin D₃ is a fat-soluble vitamin that is essential for maintaining normal calcium metabolism. Chemically it is described as 3-[2-[7a-methyl-1-(6-methylheptan-2-yl)-2,3,3a,5,6,7-hexahydro-1H-inden-4-ylidene]ethylidene]-4-methylidene-cyclohexan-1-ol and its molecular weight is 384.638 g/mol.

PHARMACOLOGY: Pharmacodynamics: Vitamin D₃ (Cholecalciferol) can be synthesized by humans in the skin upon exposure to ultraviolet-B (UVB) radiation from sunlight or it can be obtained from the diet. When exposure to UVB radiation is insufficient for the synthesis of adequate amounts of vitamin D₃ in the skin, adequate intake of vitamin D₃ from the diet is essential for health. Most if not all actions of vitamin D₃ are mediated through a nuclear transcription factor known as the vitamin D receptor (VDR).

Pharmacokinetics: Vitamin D₃ is well absorbed from the gastrointestinal tract. The presence of bile is essential for the adequate intestinal absorption. Absorption may be decreased in patients with decreased fat absorption. Vitamin D₃ and its metabolite circulate in the blood bound to specific alpha globulin. Vitamin D₃ can be stored in muscle and adipose tissue for long periods of time. It is slowly released from such storage sites and from the skin where it is formed in the presence of sunlight or UVB. Vitamin D₃ has a slow onset and longer duration of action. It is hydroxylated in the liver by the enzyme vitamin D 25-hydroxylase to 25-hydroxycholecalciferol (Calcidiol). This compound undergoes further hydroxylation in the kidneys by the enzyme vitamin D 1-hydroxylase to form the active metabolite 1, 25-dihydroxycholecalciferol (Calcitriol). Further metabolism also occurs in the kidney, including the formation of 1, 24, 25-trihydroxy derivatives. Vitamin D₃ compounds and their metabolites are

excreted mainly in the bile and faeces with only small amount appearing in the urine; there is some enterohepatic recycling but it is considered to have negligible contribution to vitamin D₃ status. Certain vitamin D₃ substances may be distributed into the breast milk.

INDICATIONS: SunnyD is indicated in prevention & treatment of vitamin D₃ deficiencies. It is involved in bone fixation of calcium. SunnyD promotes strong bones & teeth, supports healthy immune system, promotes muscle strength, defends against cancer, maintains cardiovascular health, aids in proper digestion & food absorption, promotes healthy mood, regulates sleep, maintains eye & ear health, keeps hair & skin healthy, aids in weight management, slows the aging process, supports healthy endocrine function and maintains respiratory (prevents asthma, cold & flu) & reproductive health.

CONTRAINDICATIONS: The drug must not be used in the following cases:

- Hypersensitivity to any of the ingredients, mainly to vitamin D₃
- Hypercalcemia (abnormally high levels of blood calcium)
- Hypercalciuria (excessive urinary elimination of calcium)
- Calcium lithiasis (kidney stones)

POSSIBLE ADVERSE EFFECTS: As with any medicine, it may also produce unpleasant effects of varying intensity. Loss of appetite, constipation, diarrhea, dry mouth, headache, increased thirst, mental confusion, nausea & vomiting and unusual tiredness are few of the side effects generally encountered.

DRUG INTERACTIONS: Steroid medications such as prednisone can interfere with vitamin D₃ metabolism. If you take steroid drugs regularly, discuss vitamin D₃ with your doctor. The weight loss drug, Orlistat and cholesterol-lowering drug, Cholestyramine may cut absorption of vitamin D₃. People taking these drugs should discuss vitamin intake with their doctors. The seizure drugs Phenobarbital and Phenytoin affect vitamin D₃ metabolism and affect calcium absorption, so do anti-tuberculosis drugs. On the other hand, cholesterol-lowering statin drugs and thiazide diuretics increase vitamin D₃ levels.

WARNINGS: Kidney disease: Vitamin D₃ may increase calcium levels and increase the risk of hardening of the arteries in people with serious kidney disease. **High levels of calcium in the blood:** Taking vitamin D₃, could make this condition worse.

Hardening of the arteries (atherosclerosis): Taking vitamin D₃ could make this condition worse. **Sarcoidosis:** Vitamin D₃ may increase calcium levels in people with sarcoidosis. This could lead to kidney stones and other problems.

Histoplasmosis: Vitamin D₃ may increase calcium levels in people with histoplasmosis. This could lead to kidney stones and other problems. **Over-active parathyroid gland (hyperparathyroidism):** Vitamin D₃ may increase calcium levels in people with hyperparathyroidism. **Lymphoma:** Vitamin D₃ may increase calcium levels in people with lymphoma. This could lead to kidney stones and other problems.

Other medications: Concomitant use of other medicines containing vitamin D₃ could result in overdosage. If high or repeated doses of vitamin D₃ or calcium are administered, it is necessary to monitor calcium levels in blood and urine. **Pregnancy & Lactation:** Vitamin D₃ is SAFE during pregnancy and breast-feeding when used within the recommended dose.

DOSAGE & ADMINISTRATION: As advised by the physician.

STORAGE/PRECAUTIONS: Do not refrigerate. Injection should not be used if the ampoule is leaking or it contains undissolved particles. Avoid direct sunlight and protect from moisture and heat. Store below 25°C. Keep all medicines out of the children's reach. **PRESENTATION:** SunnyD insta ampoule is available in packaging containing 1 and 5 ampoule respectively.

PRESENTATION: SunnyD insta ampoule is available in packaging containing 1 and 5 ampoule respectively.

خوراک: ڈاکٹر کی ہدایت کے مطابق۔ احتیاط: ریفریجریٹر میں نہ رکھیں۔ ایمپول کے ٹیک ہونے یا اس میں کوئی غیر حل پذیر شے نظر آنے کی صورت میں ہرگز استعمال نہ کریں۔ دھوپ، نمی اور گرمی سے بچائیں۔ 25 ڈگری سینٹی گریڈ سے کم درجہ حرارت پر محفوظ کریں۔ تمام ادویات بچوں کی پہنچ سے دور رکھیں۔ مستند ڈاکٹر کے نسخہ پر فروخت اور استعمال کریں۔

Complete Medical Information available only for doctors on request.



Manufactured by: **Scotmann Pharmaceuticals**
5-D, I-10/3 Industrial Area, Islamabad - Pakistan.
www.scotmann.com

Made from  ingredients

Majority of Pakistani population is Vitamin D₃ Deficient (VDD) having Vitamin D₃ levels less than 20 ng/ml

Vitamin D ₃ LEVELS*			
25-HYDROXY D			
Deficient	Optimal**	Treat Cancer or Heart Disease	Excess
<50 ng/ml	50-70 ng/ml	70-100 ng/ml	>100 ng/ml

**Optimum levels for the prevention of viral infections

*articles.mercola.com/sites/articles/archive/2002/02/23/vitamin-d-deficiency-part-one.aspx