

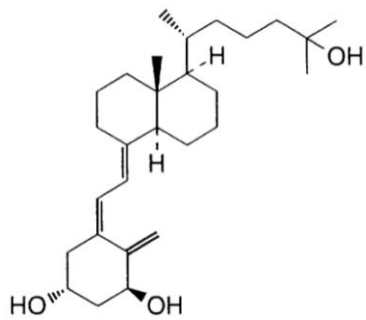
Stronger Bones

Enhanced Muscle

Improve Egg Quality

Premium D

**Biological Fermentation of
25-Hydroxyvitamin D3**

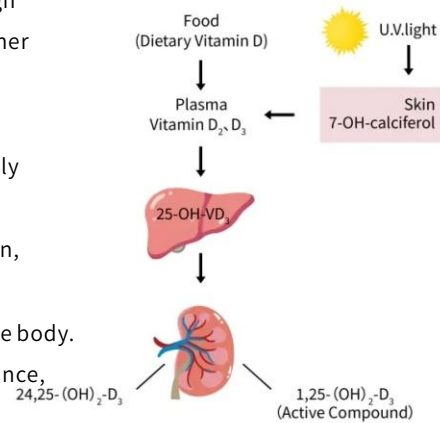


Name: 25-Hydroxycholecalciferol
Chemical Formula: C₂₇H₄₄O₂ · H₂O
Molecular Weight: 418.7

25-Hydroxyvitamin D₃ is a metabolite of vitamin D₃ formed through hydroxylation in the liver. Its biological potency is 3 to 5 times higher than that of the latter.

However, under stress or disease conditions, the efficiency of converting vitamin D₃ to 25-Hydroxyvitamin D₃ in the liver is greatly reduced in livestock and poultry. Direct supplementation of 25-Hydroxyvitamin D₃ bypasses the hepatic hydroxylation reaction, and its absorption is less affected by intestinal damage, greatly increasing the efficiency of converting 25-Hydroxyvitamin D₃ in the body.

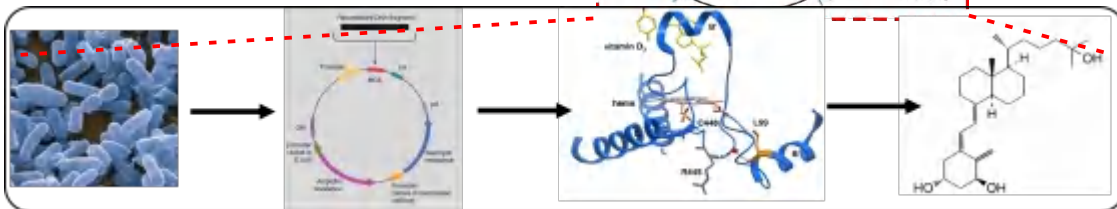
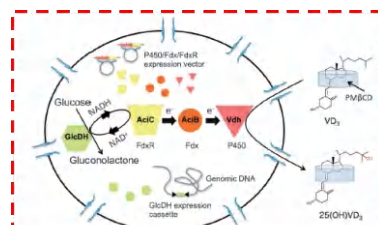
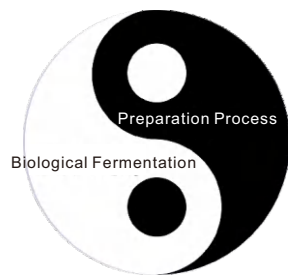
It promotes skeletal development, improves production performance, and enhances reproductive performance.



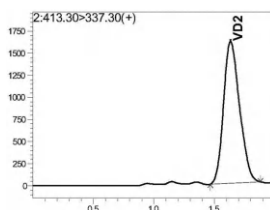
Advantages of Premium D

Synthetic Biology:

Whole-cell synthesis method, with fermentation efficiency far superior to conventional enzyme fermentation and chemical synthesis.



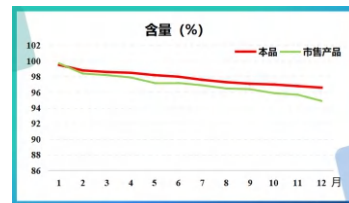
Purer Components



Solvent-Free

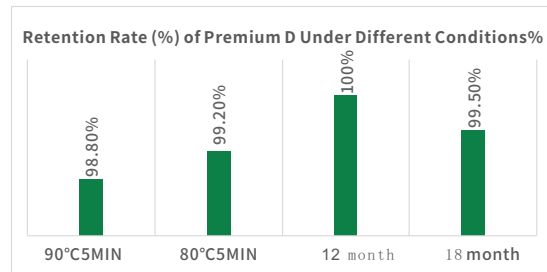
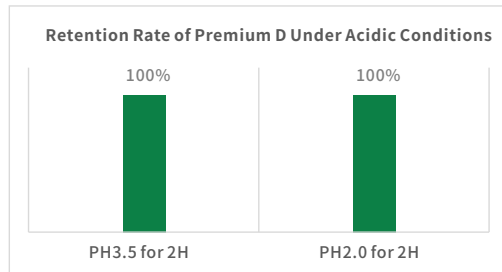


Good stability



Optimized Preparation Process:

The active ingredients of this product remain stable throughout the shelf life, maintaining consistent activity even under pH 2.0 conditions, and are not affected by feed additives or gastrointestinal conditions in animals.



Verification of the Efficacy of Premium D



Breeding pig: Effectively improve the reproductive performance of boars, sperm density increase by 5.5%, sperm motility increase by 2.7%, sperm deformity rate significant decreased by 15.9%

Table 1: Effect of Premium D on Boar Sperm Quality

Item	Control	25-OH-D ₃	P-value
Sperm Density (×10 ⁸ /ml)	2.54	2.68	0.824
Effective Sperm Count (×10 ⁸ /ml)	608.5	652.2	0.524
Sperm Viability Rate %	92.1	92.9	0.421
Sperm Motility Rate%	81.4	83.6	0.428
Sperm Abnormality Rate %	11.3	9.5	0.621

Pig: The feed consumption of pigs decreases by 6%, and the concentration of calcium and phosphorus in pig blood increases by 3% to 20% at different stages, resulting in a significant improvement in growth performance.

Table 2: Effect of Premium D on Growth Performance of Pigs (6 kg - 110 kg)

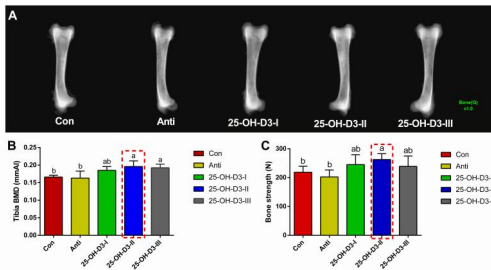
Item	Control	Premium D	P-value
ADG(g/d)	723	745	0.874
ADFI (kg/d)	2.02	2.14	0.765
F/G	2.92	2.74	0.435

Table 3: Effect of Premium D on Serum Calcium Levels (mg/dL) in Pigs at Different Growth Stages

Item	Stage	Control	Premium D	P-value
Suckling piglet A	6kg	8.09 ± 2.7	8.10 ± 2.6	0.99
Piglet B	12kg	6.69 ± 3.4	8.08 ± 1.6	0.16
Grower	30kg	8.21 ± 1.5	8.56 ± 1.3	0.44
Fattening pig	70kg	8.43 ± 2.4	8.68 ± 2.3	0.91
Finisher	110kg	8.71 ± 2.3	9.52 ± 2.2	0.09

Broiler: Bone strength and density increase by 6.3% to 12.5%, while blood calcium and phosphorus remain stable.

Figure 2: Effect of Premium D on Bone Strength and Bone Hardness in Chickens



Breeder: Significant improvement in reproductive performance.

Layer: Significantly improve egg quality, eggshell hardness increased by 15.6%, Haugh unit increased by 2.5%, egg breakage rate reduced by 24%.

Table 4: Effect of Different 25-Hydroxyvitamin D3 Levels on Production Performance of Layers

Item	Egg Specific Gravity (g/ml)	Eggshell Strength (Kp)	Haugh Unit	Egg Broken Rate (%)
Control	1.016	3.2	83.5	1.42
25-OH-D ₃ 40 µg/kg (other brand)	1.071	3.5	85.1	1.24
25-OH-D ₃ 40 µg/kg (Premium D)	1.096	3.7	85.6	1.08

Table 5: Effect of Different 25-Hydroxyvitamin D3 Levels on reproduction Performance of Breeders

Item	Control	100 mg product A/kg	100 mg Premium/kg	P Value	Effect
Laying rate/%	91.2 ± 6.3	92.4 ± 5.8	93.2 ± 6.6	0.174	+2.2%
Egg broken rate/%	3.6 ± 0.2 ^a	2.5 ± 0.1 ^b	2.1 ± 0.1 ^c	0.018	-41.7%
Hatchability Rate/%	92.5 ± 5.4	94.6 ± 6.1	95.1 ± 6.5	0.451	+2.7%
Healthy Chick Rate/%	95.1 ± 7.3	96.3 ± 6.9	97.1 ± 6.5	0.376	+2.1%

Product Information and Usage

[Composition] 25-Hydroxyvitamin D3, Ethoxyquin, Calcium Carbonate, etc.

[Ingredients] 25-Hydroxyvitamin D3 0.05% ≥ 500 mg/kg; Moisture ≤ 10%; Lead ≤ 10 mg/kg;

Total Arsenic ≤ 3 mg/kg.

[Premium D 0.05% Usage]

Recommended Dosage: For mixed feeding, add 100-125g of this product per ton of compounded feed.



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