## **Panbonis**®

Provides the active metabolite of vitamin D<sub>3</sub>.





### **Advantages**



Active form of vitamin D<sub>3</sub>



Improved Ca and P absorption in the intestine



Helps reduce the prevalence and severity of skeletal deformities in fish

Improves growth of fish

and shrimp



Improves immune response





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# **Development and welfare from the** active form of vitamin $D_3$

#### **Benefits**

Farmed fish have a high prevalence of skeletal deformities, which affects their growth and welfare. In turn, in shrimp, the molting of the exoskeleton allows the shrimp to grow and develop.

**Panbonis**<sup>®</sup> is a natural source of calcitriol or 1,25(OH)<sub>2</sub>D<sub>3</sub>, the active form of vitamin D3 (VD), which improves Ca and P

absorption from the intestine and reduces the prevalence and severity of skeletal deformities in fish. Recent studies show that **Panbonis**<sup>®</sup> significantly improves fish growth. Due to its role in Ca and P metabolism, **Panbonis**<sup>®</sup> has the potential to improve the molting rate in shrimp, allowing a higher growth of this species.



### **Mode of action**

The active form of VD participates in Ca and P metabolism, allowing the absorption of these minerals at the intestinal level and regulating their deposition and mobilization in bone, scales and kidney. The VD also participates in the immune system, improving the immune response to different pathogens. Additionally, VD has a fundamental role in muscle development.



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