Hy-D®

High performance Vitamin D for aquaculture

Improved growth and feed efficiency for higher productivity.

Faster, safer and more efficient supply of vitamin D.

Promotes an improved Immune response.

Optimizes calcium and phosphorus absorption, strengthening the skeleton.



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Hy-D®: High performance Vitamin D for aquaculture

The importance of Vitamin D in aquaculture

High performance farming with fast growth and improved feed conversion must go hand in hand with a review of the nutritional requirements of salmonids. With the replacement of marine raw materials with plant ingredients, the level of Vitamin D_3 naturally occuring in the feed may decrease.

Vitamin D deficiency in diets can cause the following physiological impacts:

1 Decreased fish growth and yield.
Vitamin D is required to drive metabolic processes related to performance.

2 Skeletal deformity due to low mineralisation.
Vitamin D controls the absorption of calcium phosphorus, and zinc.

3 Weakening of the immune system, low tissue regeneration and thinner skin.
Vitamin D regulates tissue and immune cell functions

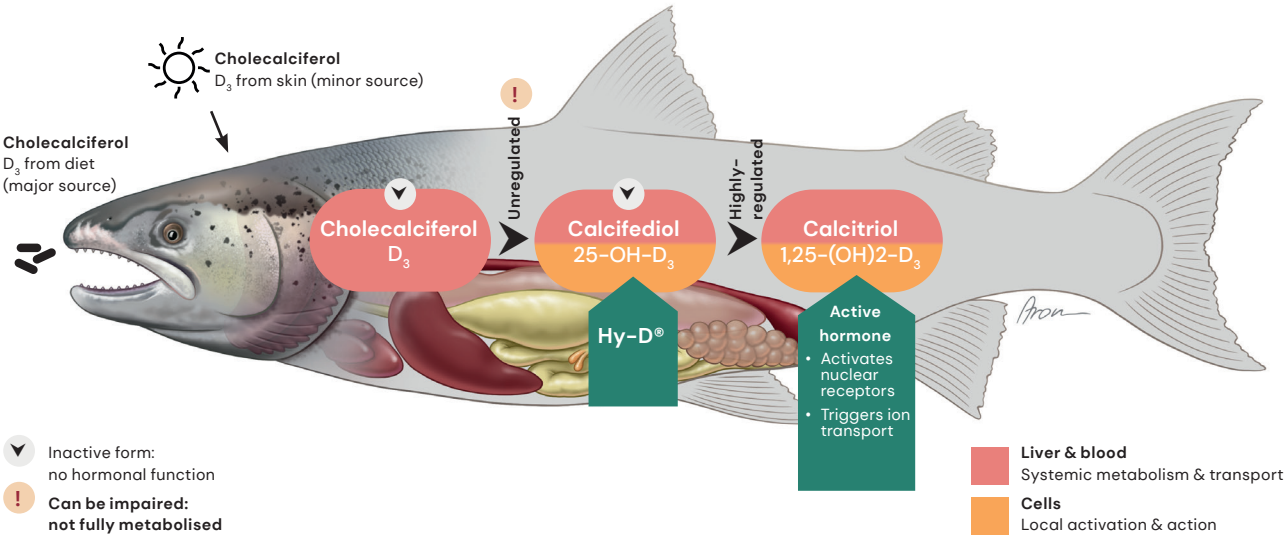
Hy-D® mode of action

Hy-D® is a pure vitamin D_3 metabolite, recognised as the most efficient form of vitamin D for fish. It's form as 25-hydroxy-vitamin D_3 (25-OH-D_3), bypasses a bottleneck in the activation of vitamin D_3, thus ensuring fish have optimal levels of physiologically active vitamin D.

With less metabolism required, Hy-D® ensures direct availability of circulating and tissue 25-OH-D_3

How fish activate vitamin D

Vitamin D needs to be metabolised to become active in fish



Benefits of Hy-D®

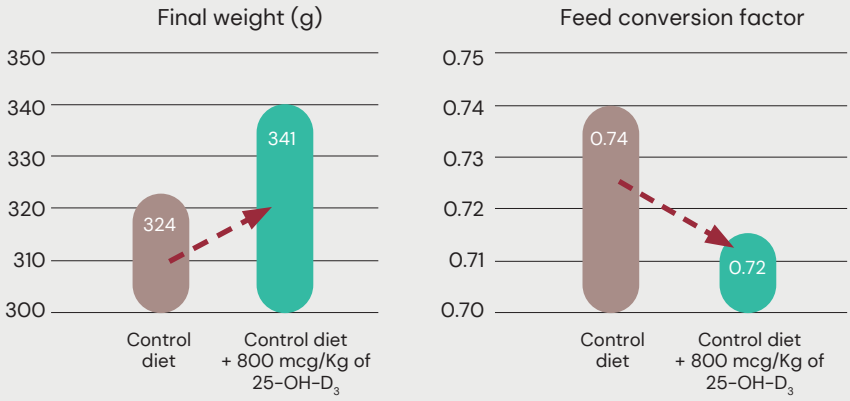
Hy-D® is the most, effective and safe form of Vitamin D supplementation for aquaculture.

- **Improved growth and feed efficiency** for higher productivity.
- **Promotes an improved** Immune response.
- **Faster, safer and more efficient supply** of vitamin D.
- **Optimizes calcium and phosphorus absorption,** strengthening the skeleton.

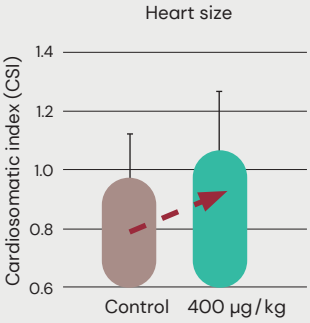
Proven results

Hy-D® added to standard diets (containing 5,200 IU D_3) improves growth and feed conversion.
Rainbow trout fed for 84 days

- Final weight increased by more than 5% compared to the control group.
- Feed conversion factor 3% lower than in the control group.

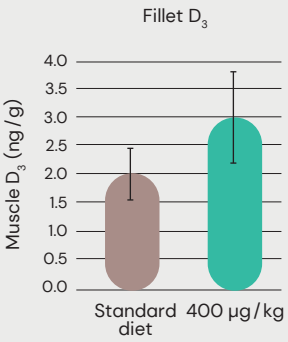


Hy-D® ensures optimal organ growth
Rainbow trout fed for 84 days



Adding Hy-D® to a standard diet (containing 5,200 IU D_3), increases growth performance and supports improved organ development – in this example, an increase in heart size.

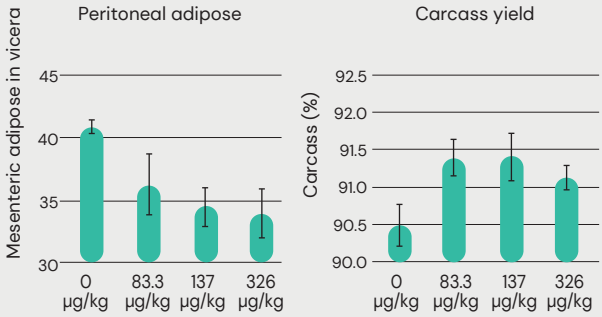
Hy-D® improves the deposition of D_3 in fillets
Rainbow trout fed for 69 days



Adding Hy-D® to standard diets (containing 5,200 IU D_3) enhances the deposition of D_3 in the fillet, helping ensure that consumer products are a rich source of vitamin D_3.

NB: D_3 levels are identical in both feeds

Hy-D® improves lipid metabolism & carcass yields
Salmon parr fed for 90 days





- Adding Hy-D® to standard diets (containing 5,200 IU D_3) improves lipid utilization.
- With Hy-D®, more lipids are directed toward carcass growth rather than being stored as gut fat.

Recommendations for use:

Add Hy-D® directly as a premix dilution to the ingredient mix in feed mills. Depending on application, add 100 to 800 mcg 25-OH-D_3 per kg of finished feed. Hy-D® is stable during feed extrusion.

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