

NUCLEOFORCE

AquaFish

Natural Growth
Inner Protection



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Nucleoforce Aqua™ is a source of concentrated and balanced free **nucleotides** and active precursors obtained from yeast.

The unique composition of **Nucleoforce Aqua™** has been designed to meet precisely and specifically the needs of fish, helping to optimise the development of the **immune and digestive systems**.



HIGH NUCLEOTIDE CONTENT

Nucleotides, as elemental biomolecules of DNA and RNA, are involved in biochemical and cellular processes where there is a high rate of multiplication of genetic material, protein synthesis, cell replication and tissue

maturation. This mainly affects animals in young ages and in challenges of the immune system. **At young ages the immune system and the intestinal system are the two tissues with the highest replication rate, and their rapid maturation and development is very important for a good start of the production.**

Incorporating **Nucleoforce Aqua™** into the diet favours resistance to **disease, stress and nutritional demands**, and increases farm efficiency and productivity. Thanks to its exceptional characteristics, **Nucleoforce Aqua™ supports intestinal health in diets with high incorporation of plant-origin raw materials**, helping to enhance the digestibility of the diet and thus supporting **intestinal and overall health of animals**.



Nucleoforce Aqua™ is a product of **natural origin**. Its origin and entire production process are focused on the **circular economy**. It is a co-product of the agri-food industry which, after being processed, becomes a high value-added raw material for the production of compound feed.



MAIN EFFECTS ON FISH:

- Favours the correct development of the immune system and modulates the expression of genes and health-related markers. ^{1,2}
- Favours the correct development and maturation of the digestive system in fish fed with diets high in vegetable protein. ^{2,3}
- Resistance to disease and pathogenic infection. ^{1,4}
- Reduces mortality. ^{1,4}
- Improves the vaccine response. ⁴

1. Effect of dietary yeast nucleotide on antioxidant activity, non-specific immunity, intestinal cytokines, and disease resistance in Nile Tilapia. Rasha M.Redha, Khaled M.Selim, Iman E.El-Araby. Fish and Shellfish Immunology 2018.

2. Effect of free nucleotides on the immune response during the first stage of fattening in gilthead bream. Borda E., Estevez A., Tort L., Chetrit C. Aquaculture Europe 2005.

3. Evaluation of the effect of nucleotides on intestinal function in juveniles of meagre (Agrionomus regius) fed on high plant protein diets. Soenz de Rodríguez M.A., Barata M., Dias J., Pousao-Ferreira P., Morales G.A., Marquez L., Moyano F.J., Ribeiro L. Aquaculture Europe, 2012.

4. Efficacy of dietary nucleotides supplementation on the immune response in Atlantic Salmon (Salmo Salar). Effects on salt water transfer and vaccination. Borda E., Chetrit C., De La Fuente E. Aquaculture Europe, 2008.

BIOIBERICA

MORE THAN 40 YEARS IMPROVING THE HEALTH AND WELL-BEING OF PEOPLE, ANIMALS AND PLANTS.

Since 1975 we have identified and developed biomolecules of high biological and therapeutic value, which are transformed into high quality **products for the pharmaceutical, nutraceutical, veterinary, food and agricultural industries.**



Our production model is based on the use of raw materials of animal origin in the most efficient way. We guarantee **full traceability and quality control** throughout the production process. We process the raw material in our 9 state-of-the-art manufacturing facilities, which comply with the most restrictive and up-to-date regulations and standards of good manufacturing practices (GMP/GMP+).



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