# Zebrafish Nampt Antibody / Nampt1 / Nicotinamide phosphoribosyltransferase (RZ1149)

| Catalog No. | Formulation | Size |
|---|---|---|
| RZ1149 | 0.5mg/ml if reconstituted with 0.2ml sterile DI water | 100 ug |

**Bulk quote request**

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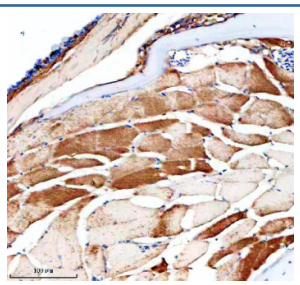
| **Availability** | 2-3 weeks |
| **Species Reactivity** | Zebrafish |
| **Format** | Antigen affinity purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit Ig |
| **Purity** | Antigen affinity chromatography |
| **Buffer** | Lyophilized from 1X PBS with 2% Trehalose |
| **UniProt** | E7F8T6 |
| **Localization** | Cytoplasm, nucleus, secreted |
| **Applications** | Immunohistochemistry (FFPE) : 2-5 ug/ml |
| **Limitations** | This Zebrafish Nampt antibody is available for research use only. |



Zebrafish Nampt / Nampt1 Antibody Skeletal Muscle Tissue IHC. Immunohistochemical analysis of Nampt1 protein using Zebrafish Nampt antibody and paraffin-embedded zebrafish skeletal muscle tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

## Description

Zebrafish (Danio rerio) Nampt antibody detects Nampt, a key metabolic enzyme that catalyzes the rate-limiting step in the NAD salvage pathway. In zebrafish, this function is encoded by nampt1, which produces Nicotinamide phosphoribosyltransferase, a highly conserved protein essential for maintaining cellular NAD levels. NAD supports energy metabolism, redox balance, DNA repair, and signaling through sirtuins and PARP-family enzymes. Because NAD

availability shapes metabolic state and developmental progression, Zebrafish Nampt antibody reagents support research in energy homeostasis, stress responses, and vertebrate development.

Nicotinamide phosphoribosyltransferase converts nicotinamide into nicotinamide mononucleotide (NMN), which is then converted into NAD by NMN adenylyltransferases. This salvage cycle is the dominant source of NAD in many tissues. In zebrafish embryos, nampt1 expression is enriched in metabolically active and proliferative tissues including the brain, heart, musculature, and developing endoderm. These regions rely heavily on NAD for ATP production, mitochondrial function, and regulation of transcriptional programs driven by NAD-dependent enzymes.

NAD levels are tightly linked to developmental processes. In vertebrates, Nampt-dependent NAD synthesis influences neural development, somite formation, cardiovascular growth, and metabolic transitions during embryogenesis. Reduced Nampt activity disrupts mitochondrial respiration, increases oxidative stress, and impairs growth signaling pathways such as those mediated by Sirt1. Zebrafish models show that perturbations in nampt1 expression lead to morphological abnormalities, reduced cellular proliferation, and energy imbalance, underscoring the conserved importance of this enzyme in vertebrate physiology.

Beyond its metabolic role, Nicotinamide phosphoribosyltransferase participates in stress-response pathways. NAD availability affects DNA repair efficiency through PARP activation, supports cellular redox buffering, and modulates apoptotic and inflammatory outcomes. These links position Nampt as a regulator of how developing tissues respond to metabolic strain, environmental fluctuations, or genetic perturbations. By maintaining adequate NAD pools, Nampt ensures that cells can activate protective pathways while sustaining growth and differentiation.

Subcellular localization of Nampt is primarily cytosolic, though mitochondrial and nuclear pools have been observed in vertebrates under certain metabolic conditions. Its wide distribution reflects the broad requirement for NAD across cellular compartments. In zebrafish, dynamic regulation of nampt1 expression corresponds with developmental milestones that require increased energy production or enhanced biosynthetic output.

Nampt also connects extracellular signals with intracellular metabolism. In mammals, an extracellular form (eNampt) has been described, influencing immune responses and insulin secretion, although the extent of this activity in fish remains under investigation. Nonetheless, intracellular Nampt remains the primary determinant of NAD salvage and is essential for coordinating metabolic demand with developmental needs.

A Zebrafish Nampt antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining NAD biosynthesis, metabolic regulation, and stress-response pathways. This antibody targets Nampt for studies involving energy metabolism, redox control, and vertebrate developmental physiology. NSJ Bioreagents provides the Zebrafish Nampt antibody to support research in metabolic biology and developmental regulation.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

## Application Notes

Optimal dilution of the Zebrafish Nampt antibody should be determined by the researcher.

## Immunogen

An E.coli-derived zebrafish Nampt1 recombinant protein (amino acids G62-N338) was used as the immunogen for the Zebrafish Nampt antibody.

## Storage

After reconstitution, the Zebrafish Nampt antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.