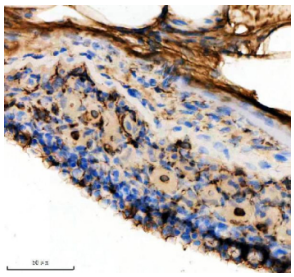
Zebrafish Hprt1 Antibody / Hypoxanthine phosphoribosyltransferase (RZ1102)

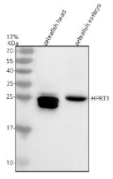
Catalog No.	Formulation	Size
RZ1102	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

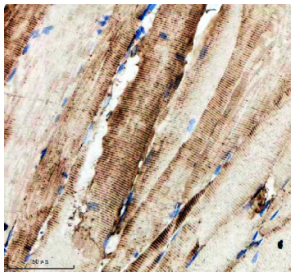
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7ZV49
Applications	Western blot: 0.5-1 ug/ml Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Hprt1 antibody is available for research use only.



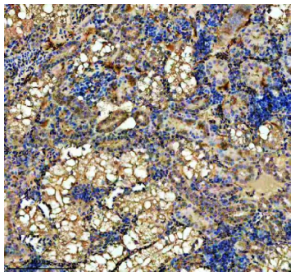
Zebrafish Hprt1 Antibody Integument Tissue IHC. Immunohistochemistry staining of FFPE zebrafish integument tissue with Zebrafish Hprt1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



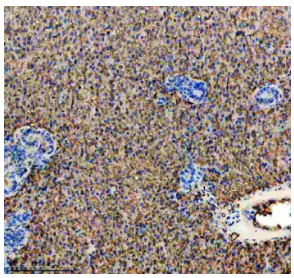
Zebrafish Hprt1 Antibody WB. Western blot analysis of HPRT1 protein using Zebrafish Hprt1 antibody and zebrafish 1) head and 2) embryo tissue lysate. Predicted molecular weight ~25 kDa.



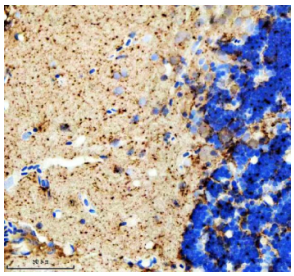
Zebrafish Hprt1 Antibody Muscle Tissue IHC. Immunohistochemistry staining of FFPE zebrafish muscle tissue with Zebrafish Hprt1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hprt1 Antibody Kidney Tissue IHC. Immunohistochemistry staining of FFPE zebrafish kidney tissue with Zebrafish Hprt1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hprt1 Antibody Liver Tissue IHC. Immunohistochemistry staining of FFPE zebrafish liver tissue with Zebrafish Hprt1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hprt1 Antibody Brain Tissue IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Zebrafish Hprt1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Hprt1 antibody detects Hypoxanthine phosphoribosyltransferase, a key enzyme in the purine salvage pathway that recycles hypoxanthine and guanine into nucleotide monophosphates. In zebrafish, the hprt1 gene encodes a structurally conserved phosphoribosyltransferase located primarily in the cytoplasm, where it helps maintain nucleotide balance, support DNA and RNA synthesis, and regulate cellular energy metabolism. Because purine salvage is essential for rapidly dividing tissues, Hypoxanthine phosphoribosyltransferase antibody reagents are frequently used in studies examining metabolic regulation, embryonic growth, and tissue homeostasis.

Hprt1 catalyzes the transfer of phosphoribosyl groups from phosphoribosyl pyrophosphate (PRPP) to hypoxanthine or guanine, generating IMP or GMP, respectively. This process conserves cellular resources by reducing reliance on de novo purine synthesis. In zebrafish embryos, hprt1 expression is detected broadly, with strong enrichment in proliferative regions such as the developing brain, somites, hematopoietic structures, and endodermal organs. These tissues require robust nucleotide pools to support transcription, replication, and metabolic turnover during rapid developmental transitions.

Loss or impairment of Hprt1 activity disrupts nucleotide homeostasis and can alter cell cycle progression, DNA repair

efficiency, and energy balance. In vertebrate systems, disruptions in HPRT1 are associated with severe neurological and metabolic syndromes due to disruption of purine regulation. While zebrafish specific phenotypes are still being characterized, conservation of enzymatic domains and biochemical function strongly suggests similar metabolic importance. Proper Hprt1 activity is critical not only for nucleotide recycling but also for maintaining balanced PRPP utilization, which influences additional biosynthetic pathways.

At the subcellular level, Hypoxanthine phosphoribosyltransferase localizes predominantly to the cytoplasm, though it may also associate with mitochondrial or nuclear compartments depending on metabolic conditions. The protein functions as a homotetramer, with active site residues positioned to coordinate substrate binding and catalysis. Known interaction partners include enzymes involved in purine metabolism, PRPP synthesis, and pathways controlling cellular redox balance. Because Hprt1 supports both anabolic and catabolic cycles, it is positioned at the crossroads of genome maintenance, cellular signaling, and metabolic adaptation.

During zebrafish development, purine salvage is essential for neural differentiation, muscle formation, hematopoiesis, and organogenesis, placing Hprt1 at the foundation of multiple biosynthetic pathways. Its contribution extends beyond nucleotide production to influence purine based signaling molecules that modulate proliferation, apoptosis, and stress responses. Metabolic studies in zebrafish embryos highlight the importance of tight purine regulation for maintaining tissue structure and function during growth.

A Zebrafish Hprt1 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining purine metabolism, nucleotide recycling, and developmental biochemistry. This reagent detects endogenous Hprt1 without implying epitope mapping or literature validated specificity. NSJ Bioreagents provides the Zebrafish Hprt1 antibody to support research in metabolic regulation, nucleotide biosynthesis, cellular proliferation, and vertebrate embryonic development.

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

Application Notes

Optimal dilution of the Zebrafish HPRT1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish HPRT1 recombinant protein (amino acids Y17-D185) was used as the immunogen for the Zebrafish Hprt1 antibody.

Storage

After reconstitution, the Zebrafish Hprt1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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