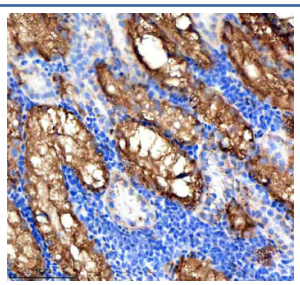
Zebrafish Vps53 Antibody / Vacuolar protein sorting-associated protein 53 (RZ1123)

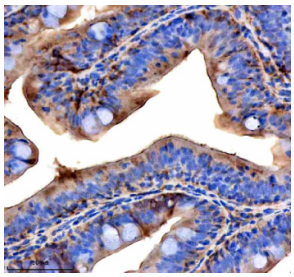
Catalog No.	Formulation	Size
RZ1123	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

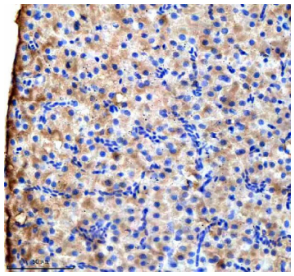
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	E7FAG0
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Vps53 antibody is available for research use only.



Zebrafish Vps53 Antibody Kidney IHC. Immunohistochemical analysis of Vps53 protein using Vps53 antibody and paraffin-embedded zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Vps53 Antibody Colon IHC. Immunohistochemical analysis of Vps53 protein using Vps53 antibody and paraffin-embedded zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Vps53 Antibody Liver IHC. Immunohistochemical analysis of Vps53 protein using Vps53 antibody and paraffin-embedded zebrafish liver tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Vps53 antibody detects Vps53, a highly conserved component of the Golgi-associated retrograde protein (GARP) complex that mediates vesicle tethering and retrograde transport from endosomes to the trans-Golgi network. The zebrafish vps53 gene encodes a structural subunit required for the assembly and stability of the GARP complex, working alongside Vps51, Vps52, and Vps54 to ensure accurate sorting and recycling of membrane proteins. Vacuolar protein sorting-associated protein 53 contributes to intracellular trafficking pathways that maintain organelle identity, regulate receptor distribution, and support developmental processes dependent on efficient membrane flow. Because vesicle tethering is essential for cellular homeostasis, Zebrafish Vps53 antibody reagents are widely used in studies of membrane dynamics, Golgi organization, and vertebrate development.

During zebrafish embryogenesis, vps53 is expressed in tissues requiring robust secretory and endosomal trafficking, including neural structures, endoderm-derived organs, epithelia, and developing mesoderm. Proper GARP activity enables recycling of key trans-Golgi enzymes, SNARE proteins, and signaling receptors, allowing cells to maintain polarized trafficking and respond appropriately to developmental cues. Disruption of Vps53 or other GARP components in vertebrates leads to defects in lysosome function, Golgi morphology, neuronal maintenance, and protein sorting, underscoring its central role in intracellular transport pathways.

At the molecular level, Vps53 contributes to vesicle tethering by forming a scaffold that interacts with Rab GTPases, SNARE complexes, and coat proteins associated with endosomal membranes. This network of interactions ensures that cargo-containing vesicles are positioned correctly at the Golgi prior to membrane fusion. In zebrafish, these processes influence neural development, epithelial integrity, and metabolic organ function, all of which depend on precise vesicle targeting and recycling. Vacuolar protein sorting-associated protein 53 also participates in retrograde transport of mannose-6-phosphate receptors and glycosylation enzymes, highlighting its role in maintaining the biosynthetic and degradative balance of the endomembrane system.

The GARP complex has additional functions in neuronal maintenance and synaptic stability. Mutations in Vps53 family members in vertebrates are associated with progressive neurodegenerative phenotypes, linked to impaired retrograde trafficking and lysosomal dysfunction. Zebrafish provide a powerful model for studying these mechanisms due to their rapid neural development and compatibility with live imaging approaches that reveal defects in axonal transport, endosomal maturation, or synaptic organization when trafficking pathways are perturbed.

Subcellular localization of Vps53 is primarily perinuclear, concentrated at the trans-Golgi network, though dynamic association with endosomal membranes occurs as vesicles approach their target. It interacts with GARP subunits, Rab6 family GTPases, SNARE proteins, and additional tethering factors that regulate vesicle fusion. Conservation of GARP

architecture across eukaryotes supports the use of zebrafish to dissect vesicle tethering mechanisms and their developmental relevance.

A Zebrafish Vps53 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining vesicle tethering, Golgi organization, endosome-to-Golgi transport, and developmental membrane trafficking. This antibody targets Vps53 for studies involving intracellular transport, organelle maintenance, and vertebrate developmental regulation. NSJ Bioreagents provides the Zebrafish Vps53 antibody to support research in membrane dynamics and trafficking pathways.

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

Application Notes

Optimal dilution of the Zebrafish Vps53 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish recombinant protein (amino acids E11-L695) was used as the immunogen for the Zebrafish Vps53 antibody.

Storage

After reconstitution, the Zebrafish Vps53 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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