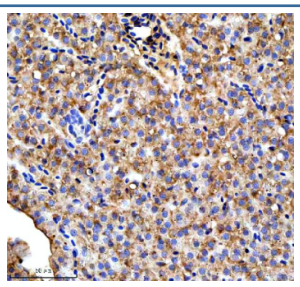
Zebrafish Ttc7b Antibody / Tetratricopeptide repeat protein 7B (RZ1157)

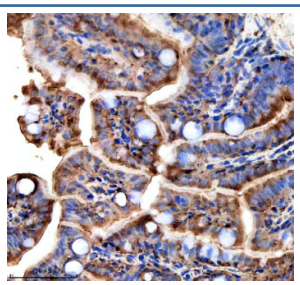
Catalog No.	Formulation	Size
RZ1157	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	A0A8M3AJW5
Localization	Cytoplasm, cell membrane
Applications	Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Ttc7b antibody is available for research use only.



Immunohistochemical analysis of Ttc7b protein using Zebrafish Ttc7b antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish liver tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunohistochemical analysis of Ttc7b protein using Zebrafish Ttc7b antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Ttc7b antibody detects Ttc7b, a tetratricopeptide repeat (TPR)-containing scaffold protein involved in membrane organization, phosphoinositide regulation, and intracellular signaling. In zebrafish, the ttc7b gene encodes Tetratricopeptide repeat protein 7B, one of two paralogs (ttc7a and ttc7b) that participate in complexes controlling lipid distribution, ion channel localization, and cytoskeletal dynamics. Ttc7b functions as a multiprotein adaptor, using its TPR domains to stabilize interactions between regulatory factors at the plasma membrane and intracellular organelles. Because membrane architecture and signaling coordination are essential for development, Zebrafish Ttc7b antibody reagents support research in epithelial biology, ion channel regulation, and vertebrate developmental signaling.

Ttc7 family proteins are best known for their involvement in regulating phosphatidylinositol 4-phosphate (PI4P) homeostasis. In vertebrates, TTC7 proteins stabilize PI4KIIIÃŽÂ± complexes that generate PI4P at the plasma membrane, a precursor for additional phosphoinositides that influence membrane identity, vesicle trafficking, and signaling cascades. In zebrafish, Tetratricopeptide repeat protein 7B likely contributes to similar regulatory mechanisms, affecting processes such as epithelial polarity, organ patterning, and the distribution of signaling components across membrane compartments.

The dynamic control of membrane lipids impacts a wide range of developmental pathways. PI4P-derived lipids regulate the activity and localization of ion channels, transporters, and receptors. Ttc7b-dependent scaffolding supports these interactions by anchoring lipid-modifying enzymes and organizing membrane microdomains. Zebrafish expression of ttc7b occurs in tissues undergoing rapid morphogenesis, including the skin, gut epithelium, neural regions, and developing sensory structures. These domains rely on coordinated membrane remodeling to shape tissue architecture and maintain physiological gradients.

Beyond lipid regulation, Ttc7b participates in ion channel trafficking. In mammalian systems, TTC7 proteins influence the localization of potassium channels and other transmembrane proteins by supporting their delivery to and retention at the plasma membrane. In zebrafish, similar functions may contribute to neuronal excitability, epithelial transport, and coordinated tissue signaling. Disruption of ttc7b can impair membrane stability, alter signaling outcomes, or disrupt organ development.

At the molecular level, Ttc7b contains multiple TPR motifs that mediate protein-protein interactions, allowing it to assemble complexes with lipid kinases, phosphatases, membrane adaptors, and cytoskeletal elements. These interactions help coordinate trafficking events and ensure proper spatial distribution of signaling factors. Subcellular localization of Ttc7b is typically concentrated at the plasma membrane and associated cytoplasmic structures, reflecting its scaffolding role.

Ttc7 proteins have also been linked to immune function, epithelial homeostasis, and metabolic regulation in vertebrates. Altered TTC7 activity has been associated with defects in barrier integrity, gut physiology, and immune signaling. Zebrafish models enable visualization of these processes in vivo and provide opportunities to explore how Ttc7b-mediated phosphoinositide regulation contributes to tissue organization and stress adaptation.

A Zebrafish Ttc7b antibody is suitable for research applications such as western blotting, immunohistochemistry, and studies examining membrane organization, phosphoinositide regulation, ion channel localization, and epithelial development. This antibody targets Ttc7b for research involving membrane-associated signaling, scaffolding complexes, and vertebrate developmental physiology. NSJ Bioreagents provides the Zebrafish Ttc7b antibody to support research in membrane biology and developmental signaling networks.

Application Notes

Optimal dilution of the Zebrafish Ttc7b antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Ttc7b recombinant protein (amino acids E276-H803) was used as the immunogen for the

Zebrafish Ttc7b antibody.

Storage

After reconstitution, the Zebrafish Ttc7b antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.