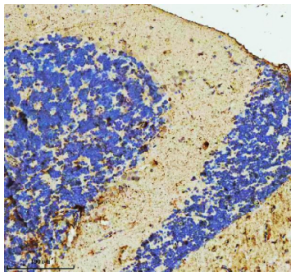
Zebrafish C9orf72 Antibody (RZ1012)

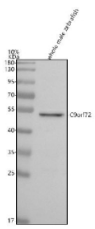
Catalog No.	Formulation	Size
RZ1012	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q6TLH8
Localization	Cytoplasm
Applications	Western blot: 0.5-1 ug/ml Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish C9orf72 antibody is available for research use only.



Zebrafish C9orf72 Antibody Brain IHC. Immunohistochemical analysis of C9orf72 protein using C9orf72 antibody and paraffin-embedded zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish C9orf72 Antibody WB. Western blot analysis of C9orf72 protein using C9orf72 antibody and whole male zebrafish tissue lysate. The predicted molecular weight of C9orf72 is 54 kDa.

Description

Zebrafish (Danio rerio) C9orf72 antibody recognizes C9orf72, a conserved protein encoded by the zebrafish c9orf72 gene located on chromosome 3. Although human C9orf72 is widely studied in the context of ALS and frontotemporal dementia, the zebrafish ortholog retains key functional domains involved in vesicular trafficking, autophagy regulation, and intracellular signaling. C9orf72 forms a complex with SMCR8 and WDR41, creating a GTPase activating module that regulates Rab GTPases and lysosomal homeostasis. In Danio rerio, C9orf72 is expressed throughout embryogenesis, with enrichment in neural tissue, somites, muscle precursors, and early endodermal derivatives. Subcellular localization studies show C9orf72 concentrated in the cytoplasm, endolysosomal compartments, and regions associated with membrane trafficking machinery.

C9orf72 participates in pathways essential for autophagy initiation, lysosomal function, and cargo sorting. Its interactions with Rab proteins position it at the crossroads of vesicle maturation, endosomal transport, and lysosome recycling. In zebrafish embryos, C9orf72 contributes to the maintenance of neuronal health, axonal development, and synaptic organization. Because early zebrafish development requires efficient clearance of misfolded proteins and regulation of autophagic flux, C9orf72 plays an important supporting role in these quality control pathways. Loss of C9orf72 function can impair autophagosome formation, alter lysosome size or activity, and disrupt endosomal trafficking during periods of rapid growth.

Developmentally, c9orf72 is expressed in the central nervous system, including developing hindbrain, spinal cord, and sensory structures. Zebrafish studies indicate that reduced C9orf72 levels lead to motor deficits, abnormal axon pathfinding, and impaired neuromuscular junction development. These defects highlight the proteinÃ¢Â€Â™s importance in neuronal maintenance and cytoskeletal organization. C9orf72 also supports immune-associated pathways; in vertebrates, the C9orf72 complex influences inflammatory signaling through regulation of vesicle trafficking in macrophages, microglia, and innate immune cells. Zebrafish models have shown altered immune cell behavior when c9orf72 is disrupted, linking vesicular function to immune regulation.

At the molecular level, C9orf72 functions as a regulator of GDP-GTP cycles in Rab proteins, especially those controlling autophagic lysosome reformation and endosomal trafficking. Isoform variation in zebrafish may reflect developmental stage specific expression or tissue-restricted regulation. C9orf72 interacts with membrane-associated and cytoskeletal factors required for vesicle transport, linking its activity to neuronal maturation and cell signaling. During embryogenesis, C9orf72 expression coincides with periods of intense autophagic activity, supporting clearance of developmentally regulated proteins and remodeling cellular architecture.

Although zebrafish do not carry the human hexanucleotide repeat expansion associated with ALS, C9orf72 knockdown and genetic disruption models in Danio rerio have been widely used to study autophagy defects, axonal degeneration, and neuromuscular abnormalities. These models provide insight into conserved C9orf72 functions and help elucidate mechanisms relevant to neurodegenerative disease biology. C9orf72 also contributes to metabolic homeostasis and stress adaptation, highlighting its broader relevance across cell types.

This Zebrafish C9orf72 antibody is suitable for detecting C9orf72 in research focused on autophagy, vesicle trafficking, neuronal development, neuromuscular biology, and immune signaling in zebrafish. It supports studies examining Rab GTPase regulation, lysosomal pathways, and developmental phenotypes resulting from altered intracellular transport. NSJ Bioreagents provides this reagent within its zebrafish and neurodevelopmental research collection.

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

Application Notes

Optimal dilution of the Zebrafish C9orf72 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish C9orf72 recombinant protein (amino acids R40-E77) was used as the immunogen for the Zebrafish C9orf72 antibody.

Storage

After reconstitution, the Zebrafish C9orf72 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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