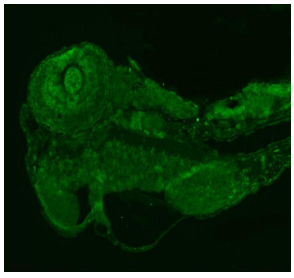
Zebrafish Prpf6 Antibody / Pre-mRNA processing factor 6 (RZ1283)

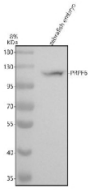
Catalog No.	Formulation	Size
RZ1283	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	A0A2R8PWG5
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.5-1ug/ml Immunofluorescence : 5ug/ml
Limitations	This Zebrafish Prpf6 antibody is available for research use only.



Immunofluorescent staining of PRPF6 protein using Zebrafish PRPF6 antibody (green). HIER: steam section in pH8 EDTA buffer for 20 min.



Western blot analysis of Prpf6 protein using Zebrafish Prpf6 antibody and zebrafish embryo tissue lysates. Predicted molecular weight ~109 kDa.

Description

The Zebrafish Prpf6 antibody targets Prpf6, also known as Pre-mRNA processing factor 6, a core U5 snRNP-associated splicing factor essential for spliceosome assembly, catalytic activation, and high-fidelity pre-mRNA splicing in Danio rerio. Zebrafish, also known as Danio rerio, express prpf6 throughout early embryogenesis, with strong enrichment in proliferative and transcriptionally active tissues including the developing brain, retina, somites, and endodermal organs. Prpf6 localizes to the nucleus, particularly to spliceosome-rich nuclear speckles, where it stabilizes U5 snRNP components and supports formation of the U4/U6.U5 tri-snRNP complex required for efficient intron removal.

Prpf6 belongs to a conserved family of spliceosomal scaffold proteins and contains structured interaction domains that bind U5-associated factors, tri-snRNP components, and regulatory proteins that coordinate spliceosome activation. It plays a key role in bridging U5 snRNP to the U4/U6 di-snRNP, facilitating assembly of the functional tri-snRNP that enters the spliceosome during the B-complex stage. In zebrafish embryos, high prpf6 expression aligns with zones of rapid cell division and differentiation, emphasizing its requirement for large-scale transcript processing during developmental transitions. A Zebrafish Prpf6 antibody is suitable for detecting nuclear enrichment in these domains, providing a marker for active RNA splicing and transcription-coupled RNA maturation.

Functionally, Prpf6 is indispensable for spliceosome integrity and for the catalytic activation of pre-mRNA splicing. Without Prpf6, the tri-snRNP fails to assemble properly, leading to stalled spliceosomes, inefficient intron excision, and widespread mRNA processing defects. In zebrafish, prpf6 deficiency produces severe developmental phenotypes, including impaired neural development, reduced somite formation, and widespread defects in tissues reliant on rapid transcript turnover. Because pre-mRNA splicing regulates the output of major developmental pathways such as Wnt, Fgf, Notch, and Hedgehog, Prpf6 indirectly influences germ layer specification, organ formation, and lineage progression across the embryo.

Structurally, zebrafish Prpf6 contains conserved helical repeat motifs and protein-protein interaction domains that support recruitment of U5 snRNP components, RNA helicases, and assembly factors that remodel RNA substrates during splicing. These features enable Prpf6 to participate in the formation and stabilization of the tri-snRNP required for catalytically active spliceosome complexes. Zebrafish prpf6 maps to chromosome 13 and is transcriptionally regulated by developmental signals that control cell proliferation and transcriptional activity. Co-localization studies detect Prpf6 in nuclear speckles and spliceosome-dense zones, overlapping with splicing markers such as Prpf31, U5 snRNP proteins, and transcription-associated regulators.

A Zebrafish Prpf6 antibody is suitable for detecting Prpf6 in studies focused on RNA splicing regulation, spliceosome assembly, neural and mesodermal development, transcript processing, and gene-expression control in Danio rerio. Its nuclear localization provides strong contrast for mapping splicing activity across developing tissues, enabling researchers to analyze splicing defects in mutants, evaluate RNA-processing stress responses, and study how impaired spliceosome function influences organogenesis. This antibody is supplied for research use by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Prpf6 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Prpf6 recombinant protein (amino acids Q99-K618) was used as the immunogen for the Zebrafish Prpf6 antibody.

Storage

After reconstitution, the Zebrafish Prpf6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.