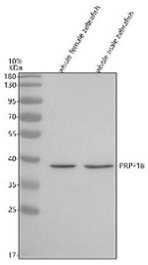
Zebrafish Prpf18 Antibody / Pre-mRNA-splicing factor 18 (RZ1281)

Catalog No.	Formulation	Size
RZ1281	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	Q6GMH0
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Prpf18 antibody is available for research use only.



Zebrafish Prpf18 Antibody Tissue WB. Western blot analysis of Prpf18 protein using Zebrafish Prpf18 antibody and 1) whole female zebrafish tissue lysates and 2) whole male zebrafish tissue lysates. Predicted molecular weight ~39 kDa.

Description

The Zebrafish Prpf18 antibody targets Prpf18, also known as Pre-mRNA-splicing factor 18, a conserved nuclear protein required for spliceosome assembly, catalytic activation, and accurate pre-mRNA processing in Danio rerio. Zebrafish, also known as Danio rerio, express prpf18 in transcriptionally active tissues from early embryogenesis through larval development, reflecting its essential role in RNA maturation and gene expression. Prpf18 localizes to the nucleus, specifically to spliceosome-rich regions where it contributes to the transition of spliceosomal complexes into their active conformations, enabling precise intron removal and exon ligation.

Prpf18 is part of the U5 snRNP-associated splicing machinery and interacts with key components of the spliceosome during catalytic activation. It contains conserved protein-interaction domains that stabilize the U5 and U6 snRNA-associated factors, helping align pre-mRNA substrates for accurate splicing. In zebrafish embryos, prpf18 expression is enriched in proliferative regions such as the developing brain, retina, somites, and endoderm-derived organs, mirroring its requirement for high-volume transcript processing. A Zebrafish Prpf18 antibody is suitable for detecting nuclear expression in these domains, providing a marker for active RNA splicing and transcriptional competency during tissue differentiation.

Functionally, Prpf18 is indispensable for proper spliceosome activation. It participates in the B-to-C complex transition, ensuring correct positioning of catalytic RNA elements and maintaining fidelity of exon junction formation. In zebrafish, loss or reduction of prpf18 disrupts RNA splicing efficiency, leading to widespread gene expression defects, impaired protein production, and developmental abnormalities. Because spliceosome activity affects virtually all signaling pathways, including Wnt, Fgf, Notch, and Hedgehog, Prpf18 indirectly influences germ layer specification, neural development, muscle formation, and organogenesis. Defects in splicing-factor genes often manifest as early lethality or tissue-specific differentiation failures, making Prpf18 a critical marker for developmental RNA-processing studies.

Structurally, zebrafish Prpf18 contains conserved splicing-factor motifs that interact with components of the activated spliceosome and help stabilize formation of the catalytic core. These regions enable coordination between RNA-binding proteins, snRNPs, and helicases responsible for RNA remodeling during intron excision. Zebrafish prpf18 maps to chromosome 15 and is transcriptionally regulated by developmental cues that govern proliferative and transcriptionally active cell populations. Co-localization studies detect Prpf18 in nuclear speckles and spliceosome-enriched regions, overlapping with markers such as snRNP proteins, splicing regulators, and transcriptional machinery.

A Zebrafish Prpf18 antibody is suitable for detecting Prpf18 in studies focused on RNA splicing, spliceosome activation, transcriptome regulation, neural and mesodermal differentiation, and early developmental gene expression in Danio rerio. Its nuclear localization provides strong contrast for mapping splicing activity across tissues and developmental stages. Researchers use Prpf18 expression to examine mutants affecting RNA processing, analyze stress-induced changes in transcript maturation, and study how impaired splicing influences developmental pathways and organ formation. This antibody is supplied for research use by NSJ Bioreagents.

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

Application Notes

Optimal dilution of the Zebrafish Prpf18 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Prpf18 recombinant protein (amino acids E93-L342) was used as the immunogen for the Zebrafish Prpf18 antibody.

Storage

After reconstitution, the Zebrafish Prpf18 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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