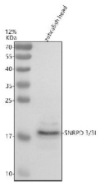
Zebrafish Snrpd3 Antibody / Snrpd3l (RZ1147)

Catalog No.	Formulation	Size
RZ1147	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	Q6IQ56, Q7ZVB5
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Snrpd3 antibody is available for research use only.



Zebrafish Snrpd3 Antibody Head Tissue WB. Western blot analysis of Snrpd3/3l protein using Zebrafish Snrpd3 antibody and zebrafish head tissue lysate. The predicted molecular weight of Snrpd3/3l is ~14 kDa.

Description

Zebrafish (Danio rerio) Snrpd3 antibody detects Snrpd3, a core component of the spliceosomal small nuclear ribonucleoprotein (snRNP) complex that participates in pre-mRNA splicing. In zebrafish, the snrpd3 gene encodes a conserved Sm protein that assembles with additional Sm family members to form the structural backbone of spliceosomal snRNPs. Zebrafish also express a related paralog, Snrpd3l, which shares high sequence similarity and may contribute to spliceosomal regulation in tissue-specific or developmental contexts. Because RNA splicing is essential for generating mature transcripts and regulating gene expression during development, Zebrafish Snrpd3 antibody reagents are widely used to study RNA processing, nuclear organization, and spliceosome assembly across vertebrate tissues.

Snrpd3 is part of the heptameric Sm ring that encircles the Sm site of U-rich small nuclear RNAs, including U1, U2, U4, U5, and U7 snRNAs. This ring structure stabilizes snRNPs and helps recruit additional splicing factors required for intron removal and exon joining. In zebrafish embryos, snrpd3 is broadly expressed in rapidly dividing and transcriptionally active tissues such as the neural tube, somites, developing heart, and early endoderm. These expression domains reflect the high demand for accurate and efficient pre-mRNA processing during periods of rapid growth and differentiation.

The spliceosome governs alternative splicing decisions that shape cell-type identity, regulate signaling pathways, and diversify the proteome. Snrpd3 contributes to the assembly and stability of core snRNP components, influencing how splicing machinery interacts with pre-mRNAs and selects splice sites. In zebrafish, disruptions in snrpd3 function can lead to developmental abnormalities, defects in tissue patterning, and impaired organogenesis due to misregulated gene expression. The presence of the paralog Snrpd3l suggests additional layers of splicing regulation, potentially contributing to tissue-specific spliceosomal composition or compensatory mechanisms under stress or developmental perturbation.

Beyond its structural role, Snrpd3 impacts nuclear architecture. Sm proteins are enriched in Cajal bodies and nuclear speckles, where snRNP assembly and recycling occur. Snrpd3 localization to these nuclear domains marks sites of active RNA processing and provides valuable insight into spliceosomal dynamics. In zebrafish embryos, where transcriptional output shifts rapidly as tissues mature, Snrpd3 distribution highlights regions undergoing intense transcriptome remodeling.

Snrpd3 also participates in snRNP maturation. The protein binds chaperones and assembly factors that help shape functional snRNP complexes before they enter active spliceosomes. Proper maturation ensures accurate splicing of transcripts encoding regulators of cell cycle progression, signaling pathways, and metabolic processes. Because zebrafish development depends on tightly controlled gene expression programs, the contribution of Snrpd3 to spliceosome integrity is critical for maintaining developmental trajectories.

At the molecular level, Snrpd3 contains conserved Sm motifs that mediate RNA binding and protein-protein interactions within the Sm ring. These motifs enable coordination between snRNPs, spliceosomal subcomplexes, and regulatory splicing factors. Subcellular localization is predominantly nuclear, with enrichment in speckles and Cajal bodies corresponding to active processing centers.

A Zebrafish Snrpd3 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining RNA splicing, snRNP biogenesis, and nuclear organization. This antibody targets Snrpd3 for studies involving transcript maturation, alternative splicing regulation, and vertebrate developmental gene expression. NSJ Bioreagents provides the Zebrafish Snrpd3 antibody to support research in RNA processing and nuclear biology.

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

Application Notes

Optimal dilution of the Zebrafish Snrpd3 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish SNRPD3/3l recombinant protein (amino acids M1-R112) was used as the immunogen for the Zebrafish Snrpd3 antibody.

Storage

After reconstitution, the Zebrafish Snrpd3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.