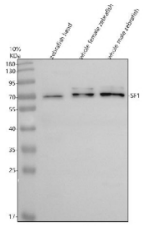
Zebrafish Sf1 Antibody / Splicing factor 1 (RZ1033)

Catalog No.	Formulation	Size
RZ1033	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	A0A0R4IBT0
Applications	Western blot: 0.5-1 ug/ml
Limitations	This Zebrafish Sf1 antibody is available for research use only.



Zebrafish Sf1 Antibody WB. Western blot analysis of Sf1 protein using Zebrafish Sf1 antibody and 1) zebrafish head, 2) whole female zebrafish and 3) whole male zebrafish tissue lysate. Predicted molecular weight ~68 kDa.

Description

Zebrafish (Danio rerio) Sf1 antibody recognizes Splicing factor 1, a conserved component of the early spliceosome assembly machinery encoded by the zebrafish sf1 gene on chromosome 9. Sf1 binds the intron branch point sequence during formation of the spliceosomal A complex, mediating the initial recognition of pre mRNA introns before subsequent U2 snRNP recruitment. This early branch point interaction is essential for defining splice sites and ensuring accurate intron removal. In Danio rerio, Sf1 is widely expressed during embryogenesis, with enrichment in proliferative tissues such as developing brain, neural tube, somites, craniofacial mesenchyme, hematopoietic regions, and endodermal organ primordia. Sf1 localizes predominantly to the nucleus, especially within transcriptionally active chromatin where co-

transcriptional splicing occurs.

Splicing factor 1 plays a foundational role in regulating mRNA maturation by participating in the earliest steps of spliceosome assembly. Through its RNA binding domain and zinc knuckle motif, Sf1 stabilizes interactions between pre mRNA and U2 auxiliary factors, ensuring that developing tissues produce correctly spliced transcripts needed for growth and patterning. In zebrafish embryos, Sf1 contributes to the regulation of alternative splicing events that generate isoform diversity required for neural differentiation, muscle formation, somite compartmentalization, and early organogenesis. Because pre mRNA splicing must rapidly adjust to shifting transcriptional programs, Sf1 activity is critical for maintaining transcriptome fidelity during embryonic development.

Developmental studies indicate that disruption of branch point recognition machinery, including Sf1, can lead to widespread splicing defects and impaired tissue morphogenesis. Proper Sf1 function supports neural tube patterning, retinal differentiation, craniofacial cartilage formation, and segmentation of somites. Many developmental regulators rely on alternative splicing to generate functional variants, and Sf1 influences these isoform decisions upstream of signaling pathways such as Wnt, FGF, Hedgehog, and Notch. The precision of this regulatory process helps guide lineage specification, cell fate transitions, and differentiation trajectories across multiple organ systems.

Sf1 also participates in RNA quality control pathways, contributing to fidelity checkpoints that prevent improper splice site selection. During environmental or metabolic stress, altered spliceosome dynamics impact the expression of stress-responsive genes, and Sf1 plays a stabilizing role in these conditions. Zebrafish models provide valuable insight into how impaired branch point recognition affects embryonic resilience, neural development, and cardiovascular biology. Because splicing variants underlie numerous vertebrate developmental disorders, Sf1 regulation represents an important early checkpoint in RNA processing.

At the molecular level, Splicing factor 1 contains an RNA recognition motif that binds the branch point sequence and protein-interaction motifs that recruit or stabilize U2-related components. Isoform-specific expression or differential regulation of sf1 may fine-tune branch point selection in zebrafish tissues with fast-changing transcriptional landscapes. Sf1 interfaces with spliceosomal proteins, chromatin modifiers, and transcription factors, linking RNA processing to broader gene regulatory networks that govern embryogenesis.

This Zebrafish Sf1 antibody is suitable for detecting Splicing factor 1 in research focused on spliceosome assembly, alternative splicing regulation, neural development, craniofacial biology, somite patterning, and RNA processing mechanisms in zebrafish. It supports studies examining early branch point recognition, co-transcriptional splicing dynamics, and developmental phenotypes arising from defective spliceosome function. NSJ Bioreagents provides this reagent within its zebrafish and RNA biology antibody 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 Sf1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Sf1 recombinant protein (amino acids R232-Q338) was used as the immunogen for the Zebrafish Sf1 antibody.

Storage

After reconstitution, the Zebrafish Sf1 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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