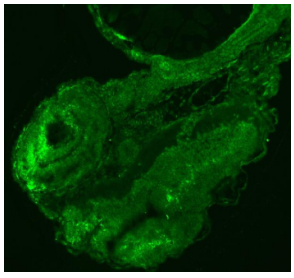
Zebrafish Sf3b3 Antibody / Splicing factor 3b subunit 3 (RZ1308)

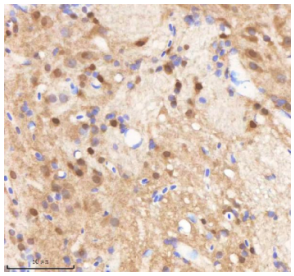
Catalog No.	Formulation	Size
RZ1308	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

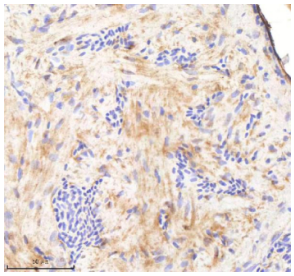
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q1LVE8
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This Zebrafish Sf3b3 antibody is available for research use only.



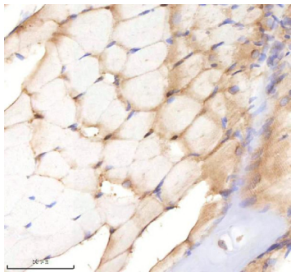
Immunofluorescent staining of Sf3b3 protein using Zebrafish Sf3b3 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



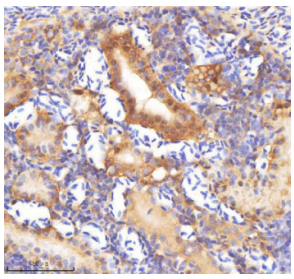
IHC staining of zebrafish Sf3b3 protein using Zebrafish Sf3b3 antibody, HRP-labeled secondary and DAB substrate. Sf3b3 was detected in a paraffin-embedded section of zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Sf3b3 protein using Zebrafish Sf3b3 antibody, HRP-labeled secondary and DAB substrate. Sf3b3 was detected in a paraffin-embedded section of zebrafish heart tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Sf3b3 protein using Zebrafish Sf3b3 antibody, HRP-labeled secondary and DAB substrate. Sf3b3 was detected in a paraffin-embedded section of zebrafish muscle tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Sf3b3 protein using Zebrafish Sf3b3 antibody, HRP-labeled secondary and DAB substrate. Sf3b3 was detected in a paraffin-embedded section of zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Sf3b3 antibody targets Sf3b3, also known as Splicing factor 3b subunit 3, a core nuclear component of the U2 small nuclear ribonucleoprotein (snRNP) complex that is essential for pre-mRNA splicing and transcript maturation in Danio rerio. Zebrafish, also known as Danio rerio, express sf3b3 broadly throughout embryogenesis, with strong enrichment in transcriptionally active and proliferative tissues including the developing brain, retina, somites, and endoderm-derived organs. Sf3b3 localizes to the nucleus, where it associates with spliceosomal assemblies and nuclear speckles to support co-transcriptional RNA processing during rapid developmental growth.

Sf3b3 is a conserved member of the SF3B complex, which stabilizes U2 snRNP binding at the intronic branch point sequence during early spliceosome assembly. By helping anchor U2 snRNP to pre-mRNA substrates, Sf3b3 contributes to accurate recognition of splice sites and proper definition of exon-intron boundaries. In zebrafish embryos, elevated sf3b3 expression coincides with periods of intense cell division and differentiation, reflecting the high demand for efficient and faithful splicing across diverse gene-expression programs. A Zebrafish Sf3b3 antibody is suitable for detecting nuclear localization in tissues undergoing active transcription and RNA metabolism.

Functionally, Sf3b3 is indispensable for spliceosome integrity and splicing fidelity. Disruption of sf3b3 compromises U2 snRNP stability and branch point recognition, leading to intron retention, exon skipping, and widespread transcriptome defects. In zebrafish, impaired Sf3b3 activity affects neural development, somitogenesis, and organ formation by altering the processing of transcripts involved in major developmental signaling pathways such as Wnt, Notch, Fgf, and Hedgehog. Because pre-mRNA splicing underlies expression of nearly all regulatory proteins, Sf3b3 plays a foundational role in coordinating developmental timing, lineage specification, and tissue maturation. Defects in SF3B components are often associated with early developmental arrest or tissue-specific abnormalities due to global disruption of RNA processing.

Structurally, zebrafish Sf3b3 contains conserved protein-interaction domains that mediate association with other SF3B

subunits and U2 snRNP components. These interactions stabilize the early spliceosomal A complex and facilitate subsequent rearrangements that allow formation of the catalytically active spliceosome. The zebrafish sf3b3 gene maps to chromosome 21 and is regulated by transcriptional programs linked to proliferation, differentiation, and cellular growth demands. Co-localization studies detect Sf3b3 within nuclear speckles and spliceosome-rich domains, frequently overlapping with additional U2-associated proteins and markers of active transcription, consistent with its role in co-transcriptional splicing control.

A Zebrafish Sf3b3 antibody is suitable for detecting Sf3b3 in studies focused on RNA splicing, spliceosome assembly, transcriptome regulation, and early developmental gene expression in Danio rerio. Its nuclear localization provides a clear readout of tissues with high RNA-processing requirements, enabling researchers to investigate splicing defects in genetic models, assess the impact of RNA-processing perturbations on organogenesis, and explore how splicing fidelity shapes developmental outcomes. Because zebrafish development relies on rapid and coordinated gene expression, Sf3b3 serves as a key marker for spliceosomal function and nuclear RNA metabolism. This antibody is supplied for research use by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Sf3b3 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Sf3b3 recombinant protein (amino acids R728-E982) was used as the immunogen for the Zebrafish Sf3b3 antibody.

Storage

After reconstitution, the Zebrafish Sf3b3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.