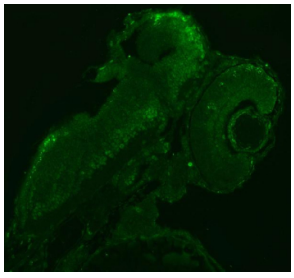
Zebrafish Sf3a1 Antibody / Splicing factor 3A subunit 1 (RZ1307)

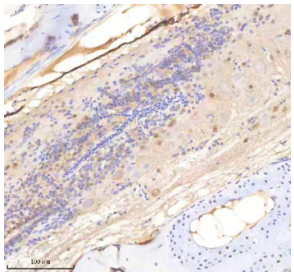
Catalog No.	Formulation	Size
RZ1307	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

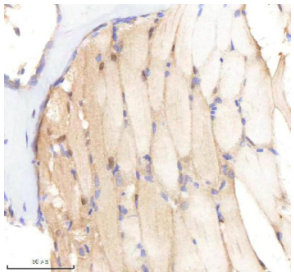
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q90X41
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml
Limitations	This Zebrafish Sf3a1 antibody is available for research use only.



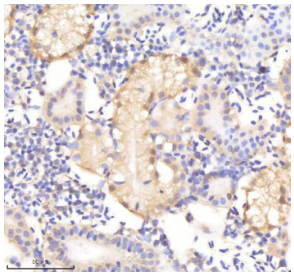
Zebrafish Sf3a1 Antibody Embryo Tissue IF. Immunofluorescent staining of Sf3a1 protein in embryo tissue using Zebrafish Sf3a1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



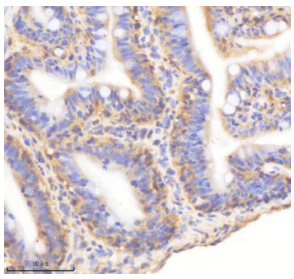
Zebrafish Sf3a1 Antibody Spinal Cord Tissue IHC. Immunohistochemistry staining of zebrafish Sf3a1 protein using Zebrafish Sf3a1 antibody, HRP-labeled secondary and DAB substrate. Sf3a1 was detected in a paraffin-embedded section of zebrafish spinal cord tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



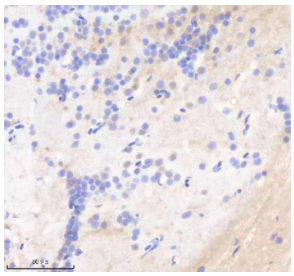
Zebrafish Sf3a1 Antibody Muscle Tissue IHC. Immunohistochemistry staining of zebrafish Sf3a1 protein using Zebrafish Sf3a1 antibody, HRP-labeled secondary and DAB substrate. Sf3a1 was detected in a paraffin-embedded section of zebrafish muscle tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



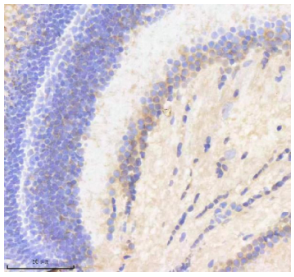
Zebrafish Sf3a1 Antibody Kidney Tissue IHC. Immunohistochemistry staining of zebrafish Sf3a1 protein using Zebrafish Sf3a1 antibody, HRP-labeled secondary and DAB substrate. Sf3a1 was detected in a paraffin-embedded section of zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Sf3a1 Antibody Colon Tissue IHC. Immunohistochemistry staining of zebrafish Sf3a1 protein using Zebrafish Sf3a1 antibody, HRP-labeled secondary and DAB substrate. Sf3a1 was detected in a paraffin-embedded section of zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Sf3a1 Antibody Brian Tissue IHC. Immunohistochemistry staining of zebrafish Sf3a1 protein using Zebrafish Sf3a1 antibody, HRP-labeled secondary and DAB substrate. Sf3a1 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.



Zebrafish Sf3a1 Antibody Eye Tissue IHC. Immunohistochemistry staining of zebrafish Sf3a1 protein using Zebrafish Sf3a1 antibody, HRP-labeled secondary and DAB substrate. Sf3a1 was detected in a paraffin-embedded section of zebrafish eye tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Sf3a1 antibody targets Sf3a1, also known as Splicing factor 3A subunit 1, a core nuclear component of the U2 snRNP complex required for accurate pre-mRNA splicing and transcript maturation in Danio rerio. Zebrafish, also known as Danio rerio, express sf3a1 broadly from early embryogenesis onward, with enriched expression in transcriptionally active and proliferative tissues such as the developing brain, retina, somites, and endodermal organs. Sf3a1 localizes to the nucleus, where it associates with spliceosomal complexes and nuclear speckles to support co-transcriptional RNA processing during rapid developmental growth.

Sf3a1 is a conserved member of the SF3A complex, which stabilizes U2 snRNP binding to the branch point sequence during early spliceosome assembly. By anchoring U2 snRNP to pre-mRNA substrates, Sf3a1 helps define intron-exon boundaries and ensures proper splice-site selection. In zebrafish embryos, sf3a1 expression correlates with periods of intense cell division and differentiation, reflecting the high demand for efficient and faithful splicing across diverse gene programs. A Zebrafish Sf3a1 antibody is suitable for detecting nuclear enrichment in tissues undergoing active transcription and RNA processing.

Functionally, Sf3a1 is essential for spliceosome assembly and splicing fidelity. Disruption of sf3a1 compromises U2 snRNP stability, leading to aberrant intron retention or exon skipping and widespread transcriptome defects. In zebrafish, impaired Sf3a1 activity affects neural development, somitogenesis, and organ formation due to misprocessing of transcripts involved in major developmental signaling pathways such as Wnt, Notch, Fgf, and Hedgehog. Because pre-mRNA splicing underpins the expression of nearly all regulatory proteins, Sf3a1 plays a foundational role in coordinating developmental timing, lineage specification, and tissue maturation. Defects in spliceosomal components often manifest as early developmental arrest or tissue-specific abnormalities, underscoring the importance of Sf3a1-mediated RNA processing.

Structurally, zebrafish Sf3a1 contains conserved protein-interaction domains that mediate binding to other SF3A subunits and to U2 snRNP components. These interactions stabilize the early spliceosomal A complex and facilitate subsequent rearrangements that enable catalytic activation. The zebrafish sf3a1 gene maps to chromosome 17 and is regulated by transcriptional programs associated with proliferation, differentiation, and cellular growth demands. Co-localization studies detect Sf3a1 within nuclear speckles and spliceosome-rich regions, often overlapping with additional U2-associated proteins and markers of active transcription, consistent with its role in co-transcriptional splicing control.

A Zebrafish Sf3a1 antibody is suitable for detecting Sf3a1 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 splicing perturbations on organogenesis, and explore how RNA-processing fidelity shapes developmental outcomes. Because zebrafish development relies on rapid and coordinated gene expression, Sf3a1 serves as a key marker for spliceosomal function and nuclear RNA metabolism. 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 Sf3a1 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Sf3a1 recombinant protein (amino acids K16-P646) was used as the immunogen for the Zebrafish Sf3a1 antibody.

Storage

After reconstitution, the Zebrafish Sf3a1 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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