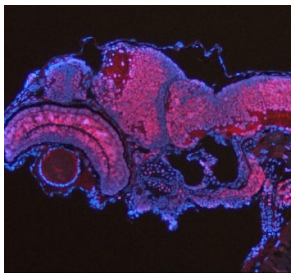
Zebrafish Ash2l Antibody / ASH2-like protein (RZ1171)

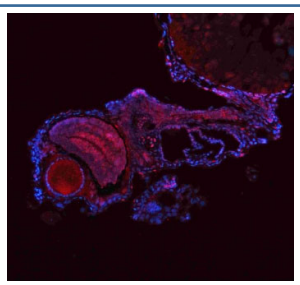
Catalog No.	Formulation	Size
RZ1171	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	A0A8M2B2E1
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 2-5 ug/ml Immunofluorescence : 5 ug/ml
Limitations	This Zebrafish Ash2l antibody is available for research use only.



Immunofluorescent analysis of Ash2l protein using Zebrafish Ash2l antibody (red) and DAPI nuclear stain (blue) with zebrafish embryo tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing



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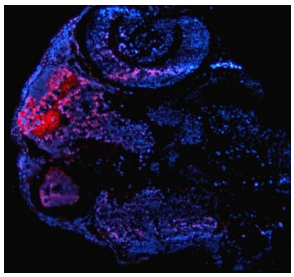

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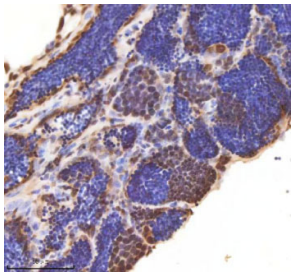

IHC staining of FFPE zebrafish testis tissue with Zebrafish Ash2l antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Ash2l antibody detects Ash2l, a core component of the COMPASS and MLL/SET1 histone methyltransferase complexes that catalyze histone H3 lysine 4 (H3K4) methylation. Encoded in zebrafish by the ash2l gene, ASH2-like protein is essential for establishing transcriptionally permissive chromatin states across promoters and enhancers. Because H3K4 methylation is strongly associated with gene activation, Ash2l plays a major role in regulating developmental transcriptional programs, stem cell maintenance, and lineage specification. This makes Zebrafish Ash2l antibody reagents important tools for research in epigenetic regulation, chromatin remodeling, and vertebrate embryogenesis.

Ash2l functions as part of a conserved subcomplex within COMPASS family methyltransferases, working alongside Wdr5, RbBP5, and other regulatory partners to stimulate the catalytic activity of SET1/MLL enzymes. This activation is required for deposition of mono-, di-, and trimethyl marks at H3K4, which promote open chromatin conformation and recruitment of transcriptional machinery. In zebrafish embryos, ash2l is expressed in proliferative tissues including the developing brain, somites, heart field, and endodermal structures. These are regions where precise transcriptional coordination guides morphogenesis, organ formation, and cell fate decisions.

The role of Ash2l in transcriptional regulation extends to multiple developmental pathways. H3K4 methylation marks enhancers and promoters associated with genes required for neural specification, somitogenesis, hematopoiesis, and early patterning. Perturbation of Ash2l function in vertebrates disrupts these processes, leading to impaired proliferation, altered tissue identity, or failure of proper axis formation. In zebrafish, Ash2l is expected to support these conserved regulatory mechanisms, enabling high-resolution control of gene expression during rapid embryonic development.

Beyond its role in promoting gene activation, Ash2l participates in the fine-tuning of epigenetic landscapes. The balance between activating (H3K4me) and repressive (H3K27me) histone marks helps maintain developmental plasticity while enforcing lineage-committed transcriptional states. Ash2l contributes to this balance by enabling robust H3K4 methylation at lineage-specific loci, supporting transitions between progenitor and differentiated states. Dynamic expression of ash2l in zebrafish embryonic tissues highlights its importance in regulating these transitions.

At the molecular level, ASH2-like protein contains domains that mediate interactions with other COMPASS components, scaffolding proteins, and chromatin substrates. Although Ash2l does not have catalytic activity itself, it is indispensable for the structural integrity and functional efficiency of H3K4 methyltransferase complexes. Structural studies in vertebrates show that Ash2l stabilizes the active conformation of SET-domain enzymes and enhances accessibility to histone substrates.

Subcellular localization of Ash2l is predominantly nuclear, consistent with its role in chromatin regulation. Its enrichment near transcriptionally active regions reflects involvement in promoter priming, enhancer activation, and transcriptional elongation. These activities make Ash2l a central regulator of gene expression programs that drive vertebrate development.

A Zebrafish Ash2l antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining chromatin modification, transcriptional activation, epigenetic patterning, and developmental gene regulation. This antibody targets ASH2-like protein for studies involving enhancer activity, histone methylation, and vertebrate lineage specification. NSJ Bioreagents provides the Zebrafish Ash2l antibody to support research in chromatin biology and developmental epigenetics.

Application Notes

Optimal dilution of the Zebrafish Ash2l antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Ash2l recombinant protein (amino acids N95-G584) was used as the immunogen for the Zebrafish Ash2l antibody.

Storage

After reconstitution, the Zebrafish Ash2l antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.