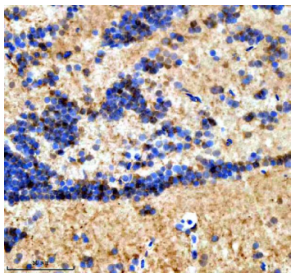
Zebrafish Suz12 Antibody / Isoforms a & b (RZ1054)

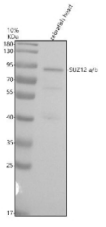
Catalog No.	Formulation	Size
RZ1054	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

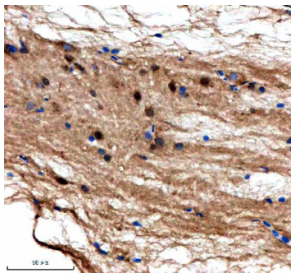
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6DC03, B0R1D5
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 2-5 ug/ml Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Suz12 antibody is available for research use only.



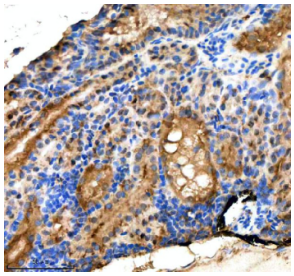
Immunohistochemical analysis of Suz12a/b protein using Zebrafish Suz12 antibody and paraffin-embedded zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of Suz12a/b protein using Zebrafish Suz12 antibody and zebrafish head tissue lysate. The predicted molecular weight of Suz12 is ~75 kDa (isoform a) and ~78 kDa (isoform b), commonly observed at 83-95 kDa.



Immunohistochemical analysis of Suz12a/b protein using Zebrafish Suz12 antibody and paraffin-embedded zebrafish spinal cord tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunohistochemical analysis of Suz12a/b protein using Zebrafish Suz12 antibody and paraffin-embedded zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Suz12 antibody recognizes the chromatin regulatory proteins Suz12a and Suz12b, two isoforms encoded by zebrafish orthologs of SUZ12, a core component of the Polycomb Repressive Complex 2 (PRC2). PRC2 establishes transcriptionally repressive chromatin states by catalyzing methylation of histone H3 at lysine 27, a modification essential for maintaining developmental gene silencing. In Danio rerio, Suz12 isoforms are expressed from early embryogenesis onward and show enriched localization in neural tissues, somites, notochord, heart, vasculature, and endoderm-derived organs including liver and pancreas. Subcellular localization is nuclear, consistent with PRC2-mediated chromatin regulation and transcriptional control.

Suz12 functions as a structural and enzymatic scaffold within PRC2, stabilizing complex assembly and enabling proper recruitment of the catalytic subunit to chromatin. Through these actions, Suz12a and Suz12b regulate gene expression programs required for lineage specification, tissue identity, and developmental timing. In zebrafish embryos, PRC2-dependent repression shapes early body axis formation, neural patterning, and mesodermal differentiation. By silencing key developmental regulators, Suz12 helps ensure orderly progression from progenitor states to differentiated cell identities.

Neural development relies extensively on PRC2 activity. During brain and spinal cord formation, Suz12 regulates transcription factors and signaling molecules that control neural progenitor proliferation, regional identity, and neuronal differentiation. Disruption of PRC2 function can lead to expansion of progenitor pools, impaired patterning, or premature differentiation. Because neural tissues undergo rapid chromatin remodeling during early development, Suz12-mediated histone modification is essential for maintaining the balance between stability and plasticity in gene expression.

Suz12 also contributes to muscle and somite development. PRC2-mediated repression coordinates segmentation, myogenic lineage progression, and the transition from proliferative precursors to differentiating myofibers. In zebrafish somites, Suz12a and Suz12b help maintain transcriptional boundaries that organize early muscle architecture. Similar mechanisms operate in notochord and axial mesoderm, where PRC2 activity supports structural integrity and morphogenetic precision.

Cardiac and vascular development are influenced by chromatin regulation involving Suz12. PRC2 shapes transcriptional programs required for early heart tube formation, chamber specification, endothelial behavior, and vascular patterning. By modulating signals including Notch, Wnt, and BMP pathways, Suz12 helps integrate epigenetic control with morphogenetic processes. Loss of PRC2 function in vertebrate embryos often results in cardiac malformation, reduced contractility, or aberrant angiogenesis, highlighting the importance of chromatin-level regulation.

Endodermal organs also depend on Suz12-regulated transcriptional landscapes. In liver and pancreas development, PRC2 activity modulates metabolic gene programs, endocrine lineage specification, and tissue expansion. Because embryonic endoderm undergoes substantial epigenetic remodeling during organogenesis, Suz12a and Suz12b provide essential repression mechanisms that maintain correct developmental progression.

This Zebrafish Suz12 antibody is suitable for detecting Suz12 isoforms a and b in research focused on chromatin regulation, Polycomb-mediated gene silencing, neural development, muscle and somite patterning, cardiac and vascular morphogenesis, and endodermal organogenesis in zebrafish. NSJ Bioreagents provides this reagent within its zebrafish and epigenetic-regulation antibody collection.

Application Notes

Optimal dilution of the Zebrafish Suz12 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish recombinant protein (amino acids K38-K448) was used as the immunogen for the Zebrafish Suz12 antibody. This antibody will detect the a and b isoforms.

Storage

After reconstitution, the Zebrafish Suz12 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.