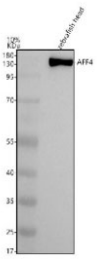
Zebrafish Aff4 Antibody / AF4/FMR2 family member 4 (RZ1176)

Catalog No.	Formulation	Size
RZ1176	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	A0A8N7TEI3
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Aff4 antibody is available for research use only.



Zebrafish Aff4 Antibody Head Tissue WB. Western blot analysis of Aff4 protein using Zebrafish Aff4 antibody and zebrafish head tissue lysate. Predicted molecular weight ~118 kDa, commonly observed at 140-150 kDa. (human similarity)

Description

Zebrafish (Danio rerio) Aff4 antibody detects Aff4, a transcriptional regulator that functions as a core component of the Super Elongation Complex (SEC). Encoded in zebrafish by the aff4 gene, AF4 FMR2 family member 4 contributes to RNA polymerase II pause release and productive elongation of target genes. SEC-mediated transcriptional elongation is a critical regulatory step for genes controlling cell proliferation, differentiation, stress responses, and developmental timing. Because zebrafish development requires rapid and precisely coordinated transcriptional activation, Zebrafish Aff4 antibody reagents support research in transcriptional elongation, gene regulatory networks, and embryonic tissue specification.

Aff4 serves as a scaffold within the SEC, enabling assembly of CDK9, Cyclin T, ELL family proteins, and additional elongation regulators. This complex phosphorylates the C-terminal domain of RNA polymerase II, allowing paused polymerase to transition into active elongation. In zebrafish embryos, aff4 expression is present in proliferative zones such as the neural plate, somites, heart field, and early organ primordia. These tissues depend on high transcriptional throughput to drive morphogenesis and coordinate lineage-specific gene expression programs.

During development, SEC components regulate transcriptional activation of key signaling pathways including Notch, Wnt, and FGF. Through its role in SEC integrity, Aff4 influences transcriptional dynamics required for neurogenesis, somitogenesis, cardiovascular development, and hematopoietic expansion. Perturbation of Aff4 or related elongation factors in vertebrates results in widespread gene expression defects, reduced cellular proliferation, and impaired tissue patterning. Zebrafish models provide a powerful system for visualizing how elongation control shapes developmental transitions in real time.

Aff4 also participates in promoter-proximal pausing, a regulatory checkpoint that ensures proper timing and synchrony of gene expression. By enabling rapid activation of stress-responsive or developmental genes, Aff4 helps maintain adaptability during metabolic changes, environmental fluctuations, or cellular stress. In zebrafish, these functions are important during early developmental windows when rapid cell movements and tissue remodeling require flexible transcriptional control.

At the molecular level, AF4 FMR2 family member 4 contains conserved domains involved in protein-protein interactions that recruit and stabilize other SEC components. It also interfaces with chromatin regulators and transcription factors, integrating elongation control with upstream signals. Subcellular localization of Aff4 is primarily nuclear, concentrated at transcriptionally active loci where polymerase pausing and release occur.

Beyond its canonical elongation role, Aff4 may contribute to enhancer activation, lineage commitment, and transcription-coupled RNA processing. These additional functions are supported by vertebrate studies showing that AFF-family proteins can interact with mediator complexes, chromatin remodelers, and components of RNA maturation pathways. In zebrafish, such interactions likely contribute to orchestrated waves of gene activation that drive organogenesis and cell-type specification.

A Zebrafish Aff4 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining transcription elongation, gene activation, RNA polymerase II dynamics, and developmental signaling. This antibody targets Aff4 for studies involving SEC-mediated transcriptional control, lineage regulation, and vertebrate embryonic gene expression. NSJ Bioreagents provides the Zebrafish Aff4 antibody to support research in transcriptional regulation and developmental biology.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Aff4 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Aff4 recombinant protein (amino acids M1-E60) was used as the immunogen for the Zebrafish Aff4 antibody.

Storage

After reconstitution, the Zebrafish Aff4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.