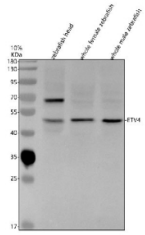
Zebrafish Etv4 Antibody / ETS translocation variant 4 / Pea3 (RZ1178)

Catalog No.	Formulation	Size
RZ1178	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	Q9PUQ1
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Etv4 antibody is available for research use only.



Western blot analysis of Etv4 protein using Zebrafish Etv4 antibody and 1) zebrafish head, 2) whole female zebrafish and 3) whole male zebrafish lysate. Predicted molecular weight ~55 kDa.

Description

Zebrafish (Danio rerio) Etv4 antibody detects Etv4, a member of the Pea3 subgroup within the ETS family of transcription factors. Encoded by the etv4 gene, ETS translocation variant 4, also known as Pea3, functions as a key regulator of gene expression programs that control tissue patterning, cell differentiation, and morphogenetic movements. ETS transcription factors bind DNA through a conserved ETS domain and activate target genes involved in signaling pathways such as FGF, Wnt, and Ras-MAPK. Because these pathways are central to vertebrate development, Zebrafish Etv4 antibody reagents support research in developmental signaling, transcriptional regulation, and tissue morphogenesis.

Etv4 is a major effector of FGF signaling in zebrafish. It is rapidly induced by FGF ligands and plays an essential role in mediating downstream transcriptional responses that shape neural development, limb and fin outgrowth, and mesodermal patterning. In zebrafish embryos, etv4 expression is prominent in the developing nervous system, migrating muscle precursors, branchial arches, and pronephric structures. These expression domains reflect the involvement of Etv4 in guiding cell fate decisions, boundary formation, and growth of emerging tissues.

During early neurodevelopment, Etv4 contributes to specification of neuronal subtypes and helps orchestrate axon guidance cues through regulation of extracellular matrix proteins and cell adhesion molecules. In migratory cell populations, including cranial neural crest and slow muscle precursors, Etv4 regulates transcriptional programs that enable coordinated movement and correct positional outcomes. Zebrafish models have demonstrated that perturbation of etv4 function leads to defects in somite patterning, craniofacial development, and sensory organ formation, revealing the conserved role of Pea3-family transcription factors in vertebrate embryogenesis.

In addition to its developmental functions, ETS translocation variant 4 interacts with signaling modules at the intersection of mitogen-induced proliferation and differentiation. Etv4 acts downstream of Ras-MAPK pathways to control gene expression involved in growth, migration, and cytoskeletal organization. The integration of multiple signaling pathways allows Etv4 to function as a transcriptional hub, coordinating responses to extracellular cues that guide tissue morphogenesis.

At the molecular level, Etv4 contains transactivation domains that recruit co-activators and chromatin remodelers to initiate transcription. Its ETS DNA-binding domain recognizes core GGAA motifs within target promoters and enhancers, enabling precise transcriptional activation. Subcellular localization is nuclear, consistent with its role as a transcription factor regulating lineage-specific gene expression.

Etv4 also participates in developmental feedback loops. For example, in FGF-driven patterning, Etv4 helps regulate components that modulate pathway sensitivity, ensuring balanced activation throughout tissue development. These feedback mechanisms enable robust yet adaptable signaling, particularly important during dynamic events such as gastrulation, somitogenesis, and organ formation in zebrafish embryos.

A Zebrafish Etv4 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining transcriptional regulation, FGF signaling, neuronal development, migratory cell behavior, and tissue patterning. This antibody targets both ETS translocation variant 4 and its well-known synonym Pea3, supporting studies of transcriptional networks and developmental signaling pathways. NSJ Bioreagents provides the Zebrafish Etv4 antibody to support research in vertebrate development and gene regulation.

Application Notes

Optimal dilution of the Zebrafish Etv4 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Etv4 recombinant protein (amino acids M1-E333) was used as the immunogen for the Zebrafish Etv4 antibody.

Storage

After reconstitution, the Zebrafish Etv4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.