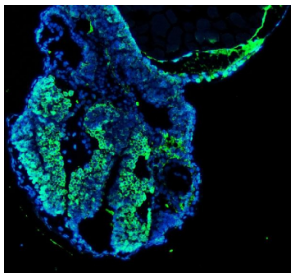
Zebrafish Nova1 Antibody (RZ1106)

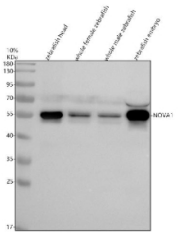
Catalog No.	Formulation	Size
RZ1106	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	A0A8M2BCK7
Localization	Nuclear
Applications	Western Blot : 0.5-1 ug/ml Immunofluorescence : 5 ug/ml
Limitations	This Zebrafish Nova1 antibody is available for research use only.



Zebrafish Nova1 Antibody Embryo IF. Immunofluorescent staining of FFPE zebrafish embryo tissue with Zebrafish Nova1 antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH8 EDTA buffer for 20 min.



Zebrafish Nova1 Antibody WB. Western blot analysis of Nova1 protein using Zebrafish Nova1 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~52 kDa.

Description

Zebrafish (Danio rerio) Nova1 antibody detects Nova1, a neuron-specific RNA binding protein that regulates alternative splicing, synaptic maturation, and neuronal identity. In zebrafish, the nova1 gene encodes a KH domain containing splicing regulator structurally conserved with mammalian NOVA1, a well established factor involved in controlling neuron-specific isoforms of transcripts required for axon guidance, neurotransmission, and neural circuit formation. Nova1 binds sequence elements known as YCAY motifs within pre mRNAs, promoting or repressing exon inclusion depending on the position of its binding sites. Because of its essential roles in neural differentiation and synaptic specialization, Zebrafish Nova1 antibody reagents are widely used in developmental neurobiology and RNA regulation studies.

During zebrafish development, nova1 is expressed primarily in the central nervous system, with strong localization in hindbrain, midbrain, spinal cord, and sensory circuits. Expression increases as neurons differentiate, reflecting Nova1's involvement in shaping cell type specific splicing programs that govern neuronal maturation. Disruption of Nova1 in vertebrate models alters splicing of synaptic vesicle proteins, ion channel regulators, cytoskeletal modulators, and guidance receptors. These mis-splicing events can impair neuronal connectivity, reduce synaptic stability, and interfere with proper circuit assembly.

At the molecular level, Nova1 contains three KH RNA binding domains that enable high affinity recognition of YCAY enriched RNA targets. It interacts with components of the spliceosome and cooperates with additional neuronal splicing factors to coordinate timing and precision of transcript maturation. In zebrafish, Nova1 regulated splicing has been linked to pathways involving motor neuron formation, interneuron specification, and the development of locomotor and sensory behaviors. Because alternative splicing is crucial for generating neuronal diversity, Nova1 helps establish the functional identity of distinct neuronal subpopulations.

Nova1 activity also contributes to post transcriptional gene regulation beyond splicing. It participates in mRNA localization, stabilization, and translational control within neuronal compartments. These additional roles help refine spatial and temporal expression of proteins required for synaptic growth and plasticity. In developing zebrafish, Nova1 influences axonal patterning and dendritic arborization by regulating isoform usage of cytoskeletal and signaling molecules. Its expression profile corresponds with key windows of neurogenesis and synaptic refinement.

Subcellular localization of Nova1 is predominantly nuclear in early developmental stages, with increasing cytoplasmic distribution in mature neurons. Known interaction partners include spliceosomal proteins, RNA trafficking factors, and components of neuromuscular and interneuron circuitry. Conservation of KH domain structure across vertebrates supports functional parallels between zebrafish Nova1 and mammalian NOVA1, making zebrafish an excellent system for studying conserved RNA regulatory mechanisms.

A Zebrafish Nova1 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining neuronal RNA regulation, alternative splicing, and neural circuit development. This antibody targets Nova1 for research involving neuron-specific gene expression, synaptic maturation, and developmental neurobiology. NSJ Bioreagents provides the Zebrafish Nova1 antibody to support studies in RNA processing, neuronal identity, and vertebrate nervous system formation.

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

Application Notes

Optimal dilution of the Zebrafish Nova1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Nova1 recombinant protein (amino acids T350-V443) was used as the immunogen for the Zebrafish Nova1 antibody.

Storage

After reconstitution, the Zebrafish Nova1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.