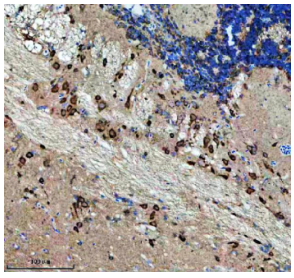
# Zebrafish Nova2 Antibody / NOVA alternative-splicing regulator 2 (RZ1075)

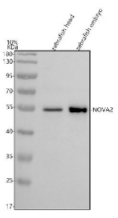
| Catalog No. | Formulation | Size |
|---|---|---|
| RZ1075 | 0.5mg/ml if reconstituted with 0.2ml sterile DI water | 100 ug |

**Bulk quote request**

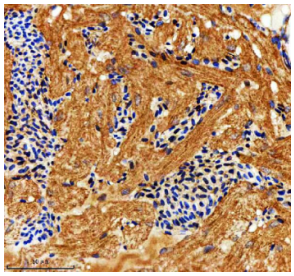
| | |
|---|---|
| **Availability** | 2-3 weeks |
| **Species Reactivity** | Zebrafish |
| **Format** | Antigen affinity purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit Ig |
| **Purity** | Antigen affinity chromatography |
| **Buffer** | Lyophilized from 1X PBS with 2% Trehalose |
| **UniProt** | F1R4G7 |
| **Localization** | Nuclear, cytoplasmic (Golgi) |
| **Applications** | Western Blot : 0.5-1 ug/ml<br>Immunohistochemistry (FFPE) : 2-5 ug/ml |
| **Limitations** | This Zebrafish Nova2 antibody is available for research use only. |



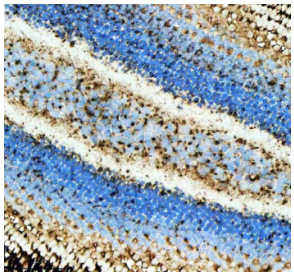
Zebrafish Nova2 Antibody Brain IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Zebrafish Nova2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Nova2 Antibody WB. Western blot analysis of Nova2 protein using Zebrafish Nova2 antibody and zebrafish head and embryo tissue lysate. Predicted molecular weight ~51 kDa.



Zebrafish Nova2 Antibody Heart IHC. Immunohistochemistry staining of FFPE zebrafish heart tissue with Zebrafish Nova2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Nova2 Antibody Eye IHC. Immunohistochemistry staining of FFPE zebrafish eye tissue with Zebrafish Nova2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

## Description

Zebrafish (Danio rerio) Nova2 antibody recognizes NOVA alternative-splicing regulator 2, encoded by the zebrafish nova2 gene. Nova2 is a neuronally enriched RNA-binding protein that regulates alternative splicing, mRNA stability, and post-transcriptional processing of transcripts essential for neural development, synaptic maturation, and neurocircuit assembly. In Danio rerio embryos, nova2 expression is largely restricted to the central nervous system, with strong enrichment in the developing brain, hindbrain, spinal cord, and neuronal clusters that emerge during early differentiation. Subcellular localization is predominantly nuclear with additional roles in RNA transport and cytoplasmic RNA regulation.

NOVA alternative-splicing regulator 2 functions through recognition of YCAY RNA motifs to control exon inclusion or exclusion in a wide array of neural transcripts. These regulated splicing events influence pathways involved in axon guidance, synaptic vesicle trafficking, cell adhesion, cytoskeletal remodeling, and neurotransmitter receptor expression. Because zebrafish neurogenesis proceeds rapidly, with extensive splicing reprogramming between early progenitor stages and later neuronal maturation, Nova2 provides essential regulatory precision that ensures proper timing, connectivity, and identity of neuronal populations.

Neural progenitors rely on Nova2-mediated splicing to transition into committed neuronal lineages. Correct regulation of splice variants determines expression patterns of transcription factors and signaling molecules that establish regional identity in the forebrain, midbrain, and hindbrain. As neurons differentiate, Nova2 influences splicing of genes involved in axonal outgrowth, dendritic branching, and synaptic function. This ensures that developing neural circuits exhibit appropriate connectivity and responsiveness to developmental signals. Perturbations in Nova2 activity can disrupt neuronal patterning, impair axon pathfinding, or alter synaptic function.

In the spinal cord, Nova2 regulates splicing programs that control interneuron diversification, motor neuron specification, and assembly of locomotor circuits. Alternative splicing of ion channels, cytoskeletal regulators, and synaptic proteins enables neurons to acquire functional properties needed for coordinated movement. Nova2-directed splicing ensures that spinal neurons receive the correct regulatory inputs to support circuit refinement during embryogenesis.

Although Nova2 is most prominently associated with neural tissues, its regulatory influence contributes indirectly to development of musculature, vasculature, and endoderm-derived organs by shaping neural inputs that coordinate systemic growth and behavior. Proper neuromuscular connectivity, for example, depends on Nova2-regulated splicing programs that influence synaptic adhesion and neurotransmission.

NOVA alternative-splicing regulator 2 also participates in neuronal stress responses. By modulating splicing of transcripts

involved in oxidative stress, DNA repair, and RNA quality control, Nova2 contributes to neuronal resilience during periods of high metabolic demand. These functions support long-term stability of neural circuits undergoing rapid developmental transitions.

This Zebrafish Nova2 antibody is suitable for detecting NOVA alternative-splicing regulator 2 in research involving neural development, RNA splicing regulation, synaptic maturation, axon guidance, and transcriptional network organization in zebrafish. NSJ Bioreagents provides this reagent within its zebrafish and RNA-regulation antibody catalog.

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

## Application Notes

Optimal dilution of the Zebrafish Nova2 antibody should be determined by the researcher.

## Immunogen

An E.coli-derived zebrafish Nova2 recombinant protein (amino acids M25-Q229) was used as the immunogen for the Zebrafish Nova2 antibody.

## Storage

After reconstitution, the Zebrafish Nova2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.