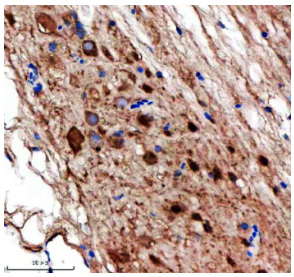
Zebrafish Nedd8 Antibody / Nedd8L (RZ1011)

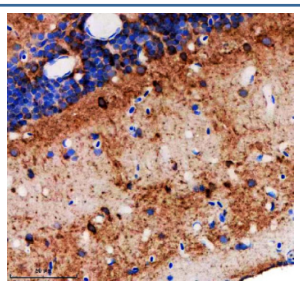
Catalog No.	Formulation	Size
RZ1011	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	F1QMF9, Q6DGU4
Localization	Cytoplasm, Nucleus
Applications	Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Nedd8L antibody is available for research use only.



Zebrafish Nedd8 Antibody Spinal Cord IHC. Immunohistochemical analysis of Nedd8/8L protein using Nedd8 antibody and paraffin-embedded zebrafish spinal cord tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Nedd8 Antibody Brain IHC. Immunohistochemical analysis of Nedd8/8L protein using Nedd8 antibody and paraffin-embedded zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Nedd8 antibody recognizes Nedd8, also referred to as Nedd8L in Danio rerio, a ubiquitin-like modifier that regulates protein stability, cell cycle progression, and developmental signaling. Nedd8 is encoded by the zebrafish nedd8l gene located on chromosome 15 and is highly conserved across vertebrates. As a ubiquitin-like protein, Nedd8 is covalently attached to target proteins through a cascade of E1, E2, and E3 enzymes. This modification, known as neddylation, alters protein conformation, activity, or interaction partners. Nedd8 is expressed during early zebrafish development, with strong enrichment in proliferating and differentiating tissues such as the neural tube, somites, eye field, and early organ primordia. Subcellular localization studies place Nedd8 predominantly in the cytoplasm and nucleus, where it associates with Cullin scaffold proteins and components of ubiquitin ligase complexes.

Nedd8 functions primarily by modifying the Cullin family of proteins, enabling formation of active Cullin-RING ligases that regulate turnover of numerous signaling molecules. Through this mechanism, neddylation influences pathways that govern proliferation, apoptosis, cell fate decisions, and morphogen responses. In zebrafish embryos, Nedd8L dependent neddylation shapes developmental processes including axis elongation, somite patterning, and neural differentiation. Because many developmental regulators and transcriptional repressors are controlled through ubiquitin ligase activity, Nedd8L plays a central role in orchestrating timely degradation of key proteins. Its activity interfaces with signaling cascades such as Wnt, Hedgehog, and FGF by controlling the stability of pathway-specific components.

Disruption of Nedd8L function in zebrafish leads to widespread developmental abnormalities. Impaired neddylation affects cell cycle progression, resulting in delayed growth, reduced proliferation of neural and mesodermal progenitors, and defects in tissue morphogenesis. Because Nedd8 controls turnover of proteins involved in DNA replication and repair, its loss can cause genomic instability or heightened sensitivity to replication stress. Zebrafish studies have shown that altered Nedd8L expression can impair craniofacial development, cardiac morphogenesis, and muscle fiber organization. Nedd8L also participates in responses to environmental stress, where it modulates the degradation of proteins involved in oxidative stress, nutrient sensing, and metabolic adaptation.

At the molecular level, Nedd8L undergoes maturation steps including processing by specific proteases and activation by the NAE1-UBA3 E1 enzyme complex. It then transfers to the Ubc12 E2 enzyme before being conjugated to substrates via Cullin-associated RING ligases. Isoform variation in zebrafish may reflect regulatory differences in processing, expression patterns, or substrate specificity. Nedd8L cycles are tightly regulated by deneddylating enzymes such as the COP9 signalosome, ensuring dynamic control of protein stability throughout development.

This Zebrafish Nedd8 antibody is suitable for detecting Nedd8L in research focused on protein turnover, ubiquitin-like signaling, developmental patterning, cell cycle regulation, and stress response pathways in zebrafish. It supports studies investigating neddylation dynamics, Cullin-RING ligase activity, and developmental phenotypes resulting from altered protein stability. NSJ Bioreagents provides this reagent within its zebrafish and protein regulation antibody collection.

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

Application Notes

Optimal dilution of the Zebrafish Nedd8 antibody should be determined by the researcher.
This antibody will detect both Nedd8 and Nedd8L protein in zebrafish samples.

Immunogen

An E.coli-derived zebrafish Nedd8/8L recombinant protein (amino acids M1-G76) was used as the immunogen for the Zebrafish Nedd8 antibody.

Storage

After reconstitution, the Zebrafish Nedd8 antibody can be stored for up to one month at 4oC. For long-term, aliquot and

store at -20oC. Avoid repeated freezing and thawing.

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