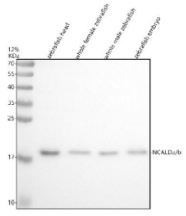
Zebrafish Ncald Antibody / Neurocalcin-delta A/B (Isoforms a & b) (RZ1005)

Catalog No.	Formulation	Size
RZ1005	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	A9JTH1, Q6AXL4
Localization	Cytoplasm, Nucleus
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Ncald antibody is available for research use only.



Zebrafish Ncald Antibody WB. Western blot analysis of Ncalda/b protein using Ncald antibody and 1) zebrafish head 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Expected molecular weight ~22 kDa.

Description

Zebrafish (Danio rerio) Ncald antibody recognizes Neurocalcin-delta A/B, a member of the neuronal calcium sensor protein family that participates in calcium dependent signaling in Danio rerio. Neurocalcin-delta belongs to a group of EF hand calcium binding proteins that translate fluctuations in intracellular calcium into biochemical responses involved in neurotransmission, synaptic plasticity, and neuronal development. The zebrafish ncald gene family includes paralogs that arise from genome duplication events, and these isoforms contribute to differential expression patterns across developing

neural tissues. Neurocalcin-delta proteins localize primarily to the cytoplasm and membrane associated compartments in neurons, where they co-localize with signaling complexes, synaptic elements, and intracellular trafficking machinery.

Neurocalcin-delta A/B participates in pathways that link calcium transients to downstream signaling cascades. Through its EF hand domains, Ncald binds calcium and undergoes conformational changes that modulate interactions with target proteins involved in membrane trafficking, G protein signaling, and regulation of ion channels. In zebrafish embryos, Ncald expression is detected in the developing brain, spinal cord, cranial ganglia, and peripheral neurons. These expression domains highlight its role in neuronal differentiation, axon pathfinding, and early network formation. Ncald contributes to the establishment of synaptic connectivity and helps coordinate temporal patterns of neuronal activity required for circuit maturation.

Zebrafish developmental studies indicate that Neurocalcin-delta influences pathways involved in photoreceptor development, neuromuscular communication, and sensory system patterning. Calcium sensor proteins like Ncald act as modulators of neurotransmitter release and can shape synaptic vesicle cycling. Changes in Ncald expression or function have been linked to altered neuronal excitability, impaired motor coordination, and disrupted signaling during early neural development. Ncald also participates in intracellular transport regulation by interacting with vesicular trafficking components, contributing to proper distribution of synaptic proteins throughout growing neurites.

Neurocalcin family proteins have broader relevance in vertebrate models of neurodegeneration, stress response, and sensory dysfunction. Although zebrafish specific disease models are still emerging, disruptions in calcium signaling pathways involving Ncald can contribute to developmental delay, impaired synaptic integration, or heightened susceptibility to environmental toxins. Because zebrafish embryos are highly responsive to changes in calcium homeostasis, Ncald has become a useful marker for studying neural calcium signaling, activity dependent gene expression, and circuit level plasticity in vivo. Isoform specific regulation in zebrafish may influence spatial distribution between Neurocalcin-delta A and B variants, providing additional layers of neuronal specialization.

This Zebrafish Ncald antibody is suitable for detecting Neurocalcin-delta A/B in research focused on calcium signaling, neuronal differentiation, synaptic development, neural circuit formation, and sensory system maturation in zebrafish. It supports studies examining EF hand calcium sensor proteins, calcium dependent gene regulation, vesicular trafficking, and developmental responses to neural activity. NSJ Bioreagents provides this reagent as part of its zebrafish and neurodevelopmental biology 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 Ncald antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Ncalda/b recombinant protein (amino acids G2-F193) was used as the immunogen for the Zebrafish Ncald antibody. This antibody will detect the a and b isoforms.

Storage

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