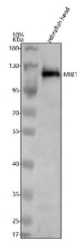
Zebrafish Mib1 Antibody / Mind bomb 1 (RZ1238)

Catalog No.	Formulation	Size
RZ1238	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	Q804S5
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Mib1 antibody is available for research use only.



Zebrafish Mib1 Antibody Tissue WB. Western blot analysis of Mib1 protein using Zebrafish Mib1 antibody and 1) zebrafish head tissue lysates. Predicted molecular weight ~113 kDa.

Description

The Zebrafish Mib1 antibody targets Mib1 (Mind bomb 1), an E3 ubiquitin ligase essential for Notch signaling, neurogenesis, and somitogenesis in Danio rerio. Zebrafish, also known as Danio rerio, express mib1 as a core regulator of Delta ligand activation, enabling proper cell-cell communication during early development. Mib1 localizes to the cytoplasm and membrane-associated compartments, where it ubiquitinates Delta ligands to promote their endocytosis, a required step for Notch receptor activation in neighboring cells. This ubiquitination-driven mechanism allows Mib1 to control binary cell fate decisions in neural, mesodermal, and epithelial tissues.

Mib1 belongs to the RING-type E3 ubiquitin ligase family, defined by C3HC4 RING domains and multiple substrate-recognition motifs. In zebrafish embryos, mib1 expression is detected broadly during segmentation and becomes enriched in developing neural structures, somitic tissue, and regions undergoing active Notch-mediated patterning. A Zebrafish Mib1 antibody is suitable for examining cytoplasmic and perimembrane localization patterns in tissues where Notch signaling regulates differentiation and morphogenetic boundaries.

Functionally, Mib1 is a master regulator of Delta-Notch signaling. By ubiquitinating Delta ligands, Mib1 facilitates their internalization, which is required to generate the mechanical pulling force and conformational changes that activate Notch in adjacent cells. In neurogenesis, Mib1 ensures proper lateral inhibition, allowing progenitor populations to differentiate into neurons with appropriate spacing and timing. In somitogenesis, Mib1 controls segmentation oscillations and somite boundary formation through regulated Notch pathway activation. Loss of mib1 causes severe defects including excess neuronal differentiation, disrupted somite patterning, and perturbed boundary formation, underscoring its broad developmental importance.

Structurally, zebrafish Mib1 contains multiple ankyrin repeats that mediate protein-protein interactions, along with two RING domains required for its E3 ligase function. These domains allow Mib1 to bind Delta ligands and catalyze ubiquitin transfer. Zebrafish mib1 maps to chromosome 10, with transcriptional regulation responsive to segmentation clock signals, neural patterning cues, and early mesodermal induction. Co-localization studies frequently detect Mib1 in Delta-rich regions of the neural tube, presomitic mesoderm, and developing sensory structures, reflecting its central placement in Notch-dependent developmental processes.

A Zebrafish Mib1 antibody is suitable for detecting Mib1 in studies focused on Notch signaling, neurogenesis, somitogenesis, and cell fate determination in Danio rerio. Its localization provides insight into where Delta ligands undergo ubiquitination and how Notch activation domains form during tissue differentiation. Researchers use Mib1 expression patterns to analyze segmentation defects, neural overproduction, boundary formation errors, and the effects of genetic or environmental disruptions on Notch signaling pathways. These features make the antibody valuable for studies in developmental patterning, intracellular signaling, and the molecular machinery of ubiquitin-mediated regulation, and it is supplied for research use by NSJ Bioreagents.

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

Application Notes

Optimal dilution of the Zebrafish Mib1 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Mib1 recombinant protein (amino acids I78-K995) was used as the immunogen for the Zebrafish Mib1 antibody.

Storage

After reconstitution, the Zebrafish Mib1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.