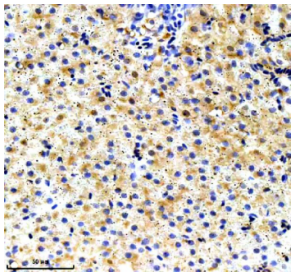
Zebrafish Ube2n Antibody / Isoforms a & b (RZ1020)

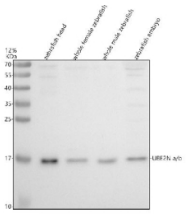
Catalog No.	Formulation	Size
RZ1020	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q803J2, Q7T3F3
Localization	Nuclear
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Ube2n antibody is available for research use only.



Zebrafish Ube2n Antibody Liver IHC. Immunohistochemistry staining of FFPE Zebrafish liver tissue with Ube2n antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Ube2n Antibody WB. Western blot analysis of Ube2na/b protein using Zebrafish Ube2n antibody and 1) zebrafish head 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Expected molecular weight ~17 kDa.

Description

Zebrafish (Danio rerio) Ube2n antibody recognizes Ubiquitin-conjugating enzyme E2 N, a conserved E2 enzyme encoded in Danio rerio by duplicated ube2na and ube2nb genes. This antibody detects both the a and b isoforms, which share high sequence identity and perform overlapping roles in ubiquitin signaling. Ube2n is a core component of K63 linked polyubiquitin chain formation, a modification that regulates DNA damage responses, immune signaling, intracellular trafficking, and developmental patterning. In zebrafish, Ube2n isoforms are expressed during early embryogenesis and are enriched in proliferating neural tissue, somites, developing musculature, hematopoietic regions, and early endodermal derivatives. Subcellular localization places Ube2n in the cytoplasm and nucleus, where it functions with its E2 variant cofactor Ube2v1 or Ube2v2 to assemble non-degradative ubiquitin chains.

Ubiquitin-conjugating enzyme E2 N plays a key role in pathways that rely on K63 linked ubiquitination, including NF kappa B signaling, MAP kinase cascades, and innate immune responses. In zebrafish embryos, Ube2n helps regulate inflammatory pathway activation, morphogen signaling fidelity, and the stability of proteins that coordinate axis patterning and tissue morphogenesis. Because early development involves extensive cell communication and stress-sensitive signaling events, Ube2n mediated ubiquitin modification contributes to proper regulation of transcriptional programs, polarity establishment, and organ system formation.

Developmental studies indicate that Ube2n isoforms influence processes dependent on cytoskeletal organization, vesicle trafficking, and DNA repair. K63 linked ubiquitination supports endosomal sorting, receptor recycling, and signaling complex assembly, making Ube2n critical for maintaining signaling gradients during neural tube closure, somite formation, and craniofacial development. Zebrafish embryos with reduced Ube2n activity can exhibit impaired dorsal ventral patterning, increased sensitivity to environmental stressors, and disruptions in neural and mesodermal tissue architecture. Because Ube2n also contributes to DNA damage tolerance, its activity supports genomic stability during rapid embryonic cell division.

Ube2n participates in innate immune and inflammatory pathways in vertebrates by regulating TRAF mediated signaling and the activation of downstream transcription factors. In zebrafish, these functions are important for early immune cell development and host defense maturation. The enzyme also influences autophagy and mitochondrial quality control by modulating ubiquitin signals that guide organelle turnover. Isoform based differences between ube2na and ube2nb may reflect nuanced regulation in specific tissues or developmental windows, although their core biochemical roles are conserved.

At the molecular level, Ube2n forms a heterodimer with Ube2v family proteins to generate K63 specific ubiquitin chains. This modification does not target substrates for degradation but instead alters protein interactions, localization, and pathway activation states. Ube2n interacts with multiple E3 ligases, positioning it at the center of regulatory networks that integrate environmental cues, stress responses, and developmental signaling.

This Zebrafish Ube2n antibody is suitable for detecting both the a and b isoforms in research focused on ubiquitin signaling, developmental patterning, immune pathway regulation, DNA damage response, and intracellular trafficking in zebrafish. It supports studies examining K63 ubiquitination dynamics, signaling complex assembly, and developmental phenotypes resulting from disrupted ubiquitin pathway activity. NSJ Bioreagents provides this reagent within its zebrafish and post translational 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 Ube2n antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish recombinant protein (amino acids Q13-I152) was used as the immunogen for the Zebrafish Ube2n antibody. This antibody will detect the a and b isoforms.

Storage

After reconstitution, the Zebrafish Ube2n antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.