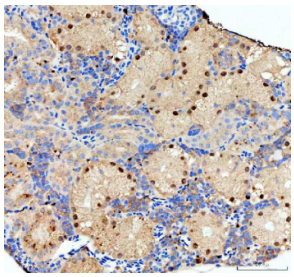
Zebrafish Nol10 Antibody / Nucleolar protein 10 (RZ1140)

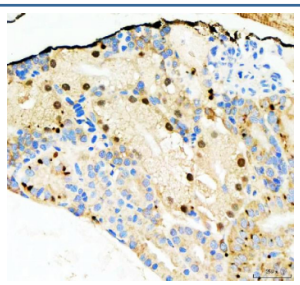
Catalog No.	Formulation	Size
RZ1140	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q802W4
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 2-5 ug/ml
Limitations	This Zebrafish Nol10 antibody is available for research use only.



Zebrafish Nol10 Antibody Kidney Tissue IHC. Immunohistochemical analysis of Nol10 protein using Zebrafish Nol10 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Nol10 Antibody Kidney Tissue IHC - Nucleolar Organization. Immunohistochemical analysis of Nol10 protein using Zebrafish Nol10 antibody, HRP secondary and DAB substrate with paraffin-embedded zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Nol10 antibody detects Nol10, a conserved nucleolar protein involved in ribosome biogenesis, prerRNA processing, and nucleolar organization. In zebrafish, the nol10 gene encodes Nucleolar protein 10, a factor required for the maturation of large ribosomal subunit rRNAs and the assembly of the 60S ribosome. Because ribosome biogenesis is one of the most energy-intensive and tightly regulated processes in developing embryos, Zebrafish Nol10 antibody reagents are widely used to study translational control, nucleolar function, and the coordination of cell growth during vertebrate development.

Nol10 participates in the early stages of rRNA processing, particularly in the maturation of 28S and 5.8S rRNAs. It associates with nucleolar preribosomal particles and interacts with additional ribosome biogenesis factors that guide cleavage, modification, and folding of nascent rRNA transcripts. In zebrafish, nol10 expression is high in proliferative tissues such as the developing brain, somites, eyes, and hematopoietic regions, where enhanced ribosome production supports rapid protein synthesis required for tissue expansion and differentiation.

Ribosome biogenesis is closely linked to cell cycle progression and metabolic regulation. The presence of Nucleolar protein 10 within nucleoli reflects its role in coordinating ribosomal output with developmental signaling pathways. Disruption of nol10 function in vertebrate models leads to nucleolar stress, activation of p53-dependent growth checkpoints, and defects in organogenesis. In zebrafish, impaired Nol10 activity can compromise cell proliferation, delay tissue patterning, and alter craniofacial or neural development due to insufficient ribosomal capacity.

Beyond its core ribosomal role, Nol10 contributes to nucleolar architecture and the dynamic assembly of ribonucleoprotein complexes. The nucleolus serves not only as the site of ribosome production but also as a sensor of cellular stress, and proteins such as Nol10 help maintain its structural integrity. Fluctuations in Nol10 levels or localization can reflect changes in metabolic demand, transcriptional activity, or stress signaling. In zebrafish embryos, where tissues undergo rapid morphological transitions, the nucleolus must adapt continuously to shifting biosynthetic requirements, making Nol10 an important factor for maintaining cellular homeostasis.

Subcellular localization of Nol10 is strictly nucleolar, where it associates with dense fibrillar and granular components involved in prerRNA processing. Its interactions include proteins responsible for rRNA cleavage, snoRNA-guided modifications, and assembly of preribosomal intermediates. This localization pattern is conserved across vertebrates, underscoring the functional importance of Nol10 in ribosome assembly.

Nol10 activity is also relevant to studies of ribosomopathies, cancer biology, and growth regulation. Because disruptions in ribosome biogenesis often trigger nucleolar stress responses, Nol10 serves as a useful marker for investigating links between protein synthesis, genomic stability, and developmental control. Zebrafish systems are particularly well-suited for visualizing how altered ribosome production affects tissue morphogenesis and organismal growth.

A Zebrafish Nol10 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining ribosome assembly, nucleolar structure, rRNA processing, and developmental proliferation. This antibody targets Nol10 for studies involving translational control, nucleolar dynamics, and vertebrate cell biology. NSJ Bioreagents provides the Zebrafish Nol10 antibody to support research in ribosome biogenesis and developmental physiology.

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

Application Notes

Optimal dilution of the Zebrafish Nol10 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Nol10 recombinant protein (amino acids Y73-D497) was used as the immunogen for the Zebrafish Nol10 antibody.

Storage

After reconstitution, the Zebrafish Nol10 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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