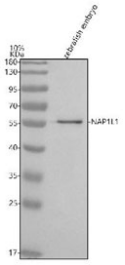
Zebrafish NAP1L1 Antibody / Nucleosome assembly protein 1-like 1 (RZ1071)

Catalog No.	Formulation	Size
RZ1071	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	A0A8M2BJ06
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish NAP1L1 antibody is available for research use only.



Zebrafish NAP1L1 Antibody WB. Western blot analysis of NAP1L1 protein using Zebrafish NAP1L1 antibody and zebrafish embryo tissue lysate. The predicted molecular weight of NAP1L1 is ~45 kDa.

Description

Zebrafish (Danio rerio) NAP1L1 antibody recognizes Nucleosome assembly protein 1-like 1, a conserved histone chaperone encoded by the zebrafish nap1l1 gene. Nap1l1 participates in nucleosome assembly, histone shuttling, chromatin organization, and transcriptional regulation across rapidly dividing and differentiating tissues. In Danio rerio embryos, nap1l1 is broadly expressed, with enriched localization in brain, neural tube, somites, notochord, heart, vasculature, and developing endoderm-derived organs such as liver and pancreas. Subcellular localization includes cytoplasm and nucleus, reflecting its dual role in histone transport and chromatin assembly.

Nucleosome assembly protein 1-like 1 belongs to a family of conserved histone chaperones that deliver H2A-H2B dimers to chromatin and regulate nucleosome dynamics during DNA replication, transcription, and DNA repair. In zebrafish embryos, which undergo rapid cell cycles and extensive chromatin remodeling, Nap1l1 supports the high demand for histone deposition and ensures proper chromatin structure as DNA is repeatedly replicated and packaged. Nap1l1 also influences transcriptional regulation by controlling histone exchange and nucleosome spacing near regulatory elements, thereby affecting gene accessibility during organogenesis.

Neural development requires precise chromatin organization, making Nap1l1 essential in the developing brain and spinal cord. Neural progenitors depend on Nap1l1-mediated histone supply to maintain proliferative capacity and genome stability. As neurons differentiate, Nap1l1 contributes to transcriptional transitions required for neuronal identity, neurite outgrowth, and synaptic maturation. Disruptions in histone chaperone activity can impair neuroepithelial structure, alter neuronal patterning, or compromise neural survival.

Somite and skeletal muscle development also rely on Nap1l1. Myogenic progenitors require regulated chromatin accessibility to transition from proliferation to differentiation. Nap1l1 supports nucleosome turnover and histone delivery during activation of muscle-specific transcriptional programs. Proper Nap1l1 activity contributes to myotome segmentation, sarcomere organization, and the emergence of early muscle architecture.

Cardiac and vascular development involve extensive epigenetic remodeling guided in part by histone chaperones. During cardiogenesis, Nap1l1 influences transcriptional programming required for chamber formation, contractile protein expression, and metabolic maturation. In endothelial tissues, Nap1l1 supports gene expression changes that regulate angiogenic sprouting, vessel patterning, and endothelial stability. Because chromatin structure heavily influences responses to mechanical and biochemical cues, Nap1l1 is essential for coordinated cardiovascular development.

Endoderm-derived organs undergo major transcriptional and epigenetic shifts as they differentiate. Nap1l1 participates in establishing chromatin states that underlie hepatocyte maturation, pancreatic endocrine specification, and intestinal morphogenesis. Histone chaperone activity supports both proliferation and lineage-specific transcriptional regulation during early organ expansion.

Beyond its developmental roles, Nap1l1 helps maintain genome integrity by facilitating chromatin reassembly after replication and DNA repair. Zebrafish embryos experience intense replication stress due to rapid division, making Nap1l1 crucial for preserving chromatin stability and preventing deleterious genomic alterations.

This Zebrafish NAP1L1 antibody is suitable for detecting Nucleosome assembly protein 1-like 1 in research focused on chromatin regulation, neural development, myogenesis, cardiac and vascular formation, and endodermal organogenesis in zebrafish. NSJ Bioreagents provides this reagent within its zebrafish and epigenetic-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 NAP1L1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish NAP1L1 recombinant protein (amino acids N31-E53) was used as the immunogen for the Zebrafish NAP1L1 antibody.

Storage

After reconstitution, the Zebrafish NAP1L1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.