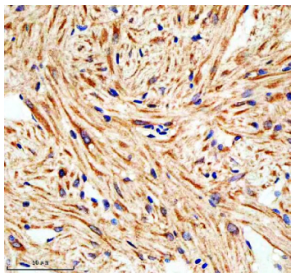
Zebrafish Lims1 Antibody / LIM domain-containing protein 1 (RZ1024)

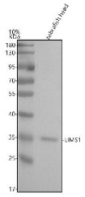
Catalog No.	Formulation	Size
RZ1024	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

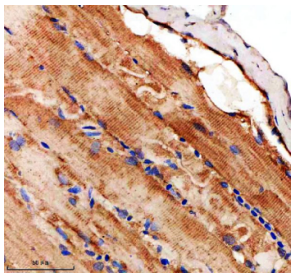
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	A0A8M9QHP1
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Lims1 antibody is available for research use only.



Immunohistochemical analysis of Lims1 protein using Zebrafish Lims1 antibody and paraffin-embedded zebrafish heart tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of Lims1 protein using Zebrafish Lims1 antibody and zebrafish head tissue lysate. The predicted molecular weight of Lims1 is ~37 kDa.



Immunohistochemical analysis of Lims1 protein using Zebrafish Lims1 antibody and paraffin-embedded zebrafish muscle tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Lims1 antibody recognizes LIM domain-containing protein 1, a conserved cytoskeletal-associated adaptor encoded by the zebrafish lims1 gene on chromosome 7. Lims1 is part of the PINCH family of LIM domain proteins that function within integrin adhesion complexes to regulate cell attachment, cytoskeletal organization, and intracellular signaling. The protein contains LIM zinc-binding motifs that mediate interactions with integrin-linked kinase, parvin family proteins, and additional cytoskeletal adaptors. In Danio rerio, Lims1 is expressed during early embryogenesis in tissues undergoing extensive morphogenetic movement, including neural crest derivatives, somites, heart, fin buds, and developing epithelia. Subcellular localization studies place Lims1 at focal adhesions, actin-associated structures, and cell-cell junctions, reflecting its central role in coordinating adhesion and mechanical signaling.

LIM domain-containing protein 1 participates in pathways that link extracellular matrix engagement with cytoskeletal remodeling. By forming part of the ILK-PINCH-parvin complex, Lims1 transduces signals from integrin receptors to factors that regulate actin dynamics, cell polarity, and survival. In zebrafish, these functions support convergence and extension movements, neural crest migration, somite alignment, and early heart morphogenesis. Lims1 influences adhesion strength, intracellular tension, and mechanotransduction pathways that are essential for shaping tissues during early development.

Developmental studies indicate that Lims1 is critical for proper cardiac development, where integrin signaling and cytoskeletal anchoring are required for myocardial cell adhesion and chamber formation. Zebrafish with reduced Lims1 expression display defects in heart tube elongation, abnormal cardiac muscle organization, and impaired looping. In neural crest-derived tissues, Lims1 helps guide cell migration and differentiation by integrating mechanical cues with cytoskeletal remodeling. During somite formation, Lims1 contributes to boundary formation and myotome organization through regulation of actin networks and adhesion complexes.

Lims1 also participates in signaling pathways that regulate survival and stress responses. In vertebrate systems, the ILK-PINCH complex modulates Akt signaling, influencing cell proliferation and cytoprotective mechanisms. These functions appear conserved in zebrafish, where integrin-driven pathways shape responses to mechanical stress and environmental changes. Lims1 expression increases in regions experiencing elevated mechanical load, including developing musculature and the contracting heart. Because integrin signaling is intertwined with growth factor pathways such as FGF and Wnt, Lims1 indirectly influences morphogen-driven patterning events.

At the molecular level, LIM domain-containing protein 1 contains multiple zinc-binding modules that support protein-protein interactions central to adhesion and cytoskeletal tuning. Isoform variation may arise through alternative transcriptional regulation and could reflect tissue-specific roles during zebrafish development. Lims1 interacts with scaffold proteins, kinases, and cytoskeletal regulators, positioning it as a key adaptor that links extracellular matrix cues to intracellular architectural changes. Its activity influences both mechanical stability and dynamic remodeling required for embryonic morphogenesis.

This Zebrafish Lims1 antibody is suitable for detecting LIM domain-containing protein 1 in research focused on integrin signaling, cytoskeletal regulation, neural crest biology, cardiac development, and embryonic morphogenesis in zebrafish. It supports studies examining focal adhesion assembly, mechanotransduction pathways, and developmental phenotypes resulting from altered adhesion-signaling integration. NSJ Bioreagents provides this reagent within its zebrafish and

cytoskeletal biology antibody collection.

Application Notes

Optimal dilution of the Zebrafish Lims1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Lims1 recombinant protein (amino acids E22-A183) was used as the immunogen for the Zebrafish Lims1 antibody.

Storage

After reconstitution, the Zebrafish Lims1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.