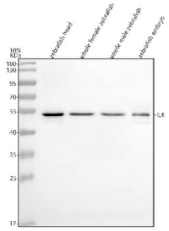
Zebrafish Integrin-linked kinase Antibody / ILK (RZ1061)

Catalog No.	Formulation	Size
RZ1061	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
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6PHD6
Localization	Cytoplasm
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Integrin-linked kinase antibody is available for research use only.



Western blot analysis of Integrin-linked kinase protein using Integrin-linked kinase antibody and 1) zebrafish head 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Expected molecular weight: 51-59 kDa.

Description

Zebrafish (Danio rerio) Integrin-linked kinase antibody recognizes Integrin-linked kinase (ILK), a conserved intracellular adaptor encoded by the zebrafish ilk gene. ILK serves as a core scaffold that connects integrin receptors to cytoskeletal networks and intracellular signaling cascades. In Danio rerio embryos, ILK expression begins early and is enriched in developing brain, neural tube, somites, craniofacial mesenchyme, heart tube, vasculature, and endoderm-derived tissues such as liver and intestine. Subcellular localization occurs at cell-matrix interfaces, focal adhesion sites, and cytoskeletal junctions, consistent with its roles in mechanotransduction and adhesion-dependent signaling.

Integrin-linked kinase forms a central component of the ILK-PINCH-parvin complex, which regulates cytoskeletal remodeling, cell polarity, actin dynamics, and traction-force generation. During embryogenesis, these processes are critical for gastrulation movements, neural plate shaping, somite boundary formation, and cardiac morphogenesis. ILK also modulates Akt and GSK3-beta signaling, influencing cell survival, proliferation, and tissue patterning. Because integrin-mediated adhesion is fundamental to morphogenesis, ILK provides a key link between extracellular matrix organization and intracellular regulatory networks.

Neural development relies heavily on ILK activity. In zebrafish brain and spinal cord tissues, ILK supports neuroepithelial integrity, regulates progenitor cell adhesion, and helps coordinate migration of differentiating neurons. ILK-associated cytoskeletal regulation contributes to axon extension, cell-shape transitions, and regional organization. Neural crest cells also depend on ILK to generate stable adhesions during collective migration, influencing craniofacial patterning and peripheral nervous system development.

In muscle and somite development, ILK is required for proper assembly of myofibrils, maintenance of actin anchorage, and alignment of contractile fibers. Zebrafish embryos with altered ILK function show defects in myotome boundary formation, sarcomere organization, and early muscle architecture. Because ILK regulates mechanical signal integration, it influences how developing muscle cells sense extracellular forces and adjust cytoskeletal tension during differentiation.

Cardiac and vascular tissues are similarly dependent on ILK-mediated adhesion signaling. ILK contributes to the stability of cardiomyocyte adhesion complexes, supporting contractile maturation and rhythmic force generation. In endothelium, ILK regulates cell junctions, vessel lumen formation, and angiogenic sprouting. Perturbation of ILK activity can result in impaired heart looping, reduced cardiac output, and abnormal vascular patterning, underscoring its importance in zebrafish cardiovascular development.

Endoderm-derived organs also rely on ILK for adhesion-dependent signaling that coordinates morphogenesis and cell polarity. In liver and intestinal development, ILK influences epithelial organization, basement membrane interactions, and responses to biomechanical cues. As tissues grow and remodel, ILK maintains adhesion stability and modulates signaling pathways that regulate growth and differentiation.

This Zebrafish Integrin-linked kinase antibody is suitable for detecting ILK in research focused on integrin signaling, cytoskeletal organization, neural development, muscle formation, cardiac morphogenesis, and vascular remodeling in zebrafish. NSJ Bioreagents offers this reagent as part of its zebrafish adhesion-signaling antibody collection.

Application Notes

Optimal dilution of the Zebrafish Integrin-linked kinase antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Integrin-linked kinase recombinant protein (amino acids R9-K452) was used as the immunogen for the Zebrafish Integrin-linked kinase antibody.

Storage

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