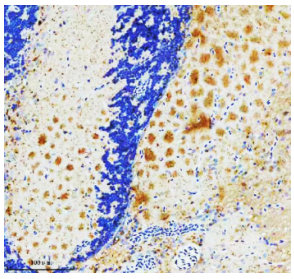
Zebrafish Pgk1 Antibody / Phosphoglycerate kinase 1 (RZ1015)

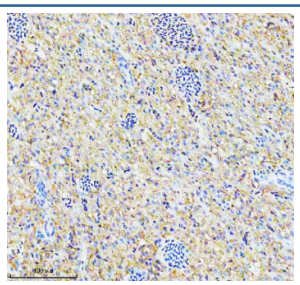
Catalog No.	Formulation	Size
RZ1015	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

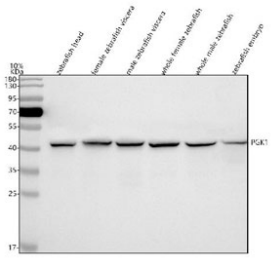
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7ZV29
Localization	Cytoplasm
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Pgk1 antibody is available for research use only.



IHC staining of FFPE zebrafish brain tissue with Zebrafish Pgk1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE zebrafish liver tissue with Zebrafish Pgk1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of Pgk1 protein using Zebrafish Pgk1 antibody and zebrafish head tissue lysate. Predicted molecular weight ~44 kDa.

Description

Zebrafish (Danio rerio) Pgk1 antibody recognizes Phosphoglycerate kinase 1, a key glycolytic enzyme encoded by the zebrafish pgk1 gene located on chromosome 12. Pgk1 catalyzes the reversible conversion of 1,3-bisphosphoglycerate to 3-phosphoglycerate, generating ATP in one of the central energy-producing steps of glycolysis. Because zebrafish embryos rely on glycolytic metabolism during rapid cell proliferation and early organ formation, Pgk1 is broadly expressed across developing tissues. High levels are found in somites, brain, eye, neural crest derivatives, hematopoietic regions, and early muscle precursors. Subcellular localization places Pgk1 in the cytosol, where it associates with metabolic enzyme networks and sometimes with cytoskeletal elements that support compartmentalized metabolism.

Phosphoglycerate kinase 1 participates in core metabolic pathways that fuel growth, differentiation, and morphogenesis. As a major ATP-generating enzyme, Pgk1 supports the energetic demands of embryonic development, including cell migration, patterning events, and coordinated tissue morphogenesis. Beyond its canonical glycolytic role, Pgk1 has been implicated in regulating cellular redox balance, nucleotide synthesis, and responses to metabolic stress. In zebrafish, Pgk1 function intersects with signaling pathways that depend on metabolite availability, including hypoxia responses, growth factor pathways, and nutrient-sensing mechanisms. Pgk1 expression increases during segmentation and early organogenesis, correlating with heightened metabolic demand.

Developmental studies indicate Pgk1 is essential for proper axis formation, somitogenesis, and neurodevelopment. Disruption of pgk1 expression or glycolytic activity can impair convergent extension movements, reduce tissue growth, and compromise brain patterning. Pgk1 also contributes to erythropoiesis and blood vessel formation by supporting metabolic environments required for hematopoietic stem cell expansion and endothelial specialization. Its involvement in stress responses is reflected in elevated Pgk1 expression under hypoxia or metabolic challenge, conditions that commonly occur during rapid embryonic growth.

Phosphoglycerate kinase 1 additionally participates in non-metabolic roles described across vertebrate systems, including modulation of autophagy, regulation of cell cycle transitions, and contribution to cytoskeletal organization. In zebrafish, Pgk1 enriched regions often correspond to areas of active cell movement, supporting the idea that metabolic enzymes help coordinate biochemical and mechanical aspects of development. Isoform variation may arise from alternative transcriptional regulation, allowing Pgk1 to meet tissue-specific metabolic requirements. Because zebrafish embryos undergo extensive metabolic reprogramming during early development, Pgk1 is a valuable readout for studying how energy metabolism shapes developmental outcomes.

This Zebrafish Pgk1 antibody is suitable for detecting Phosphoglycerate kinase 1 in research focused on glycolysis, embryonic metabolism, developmental energy regulation, neural development, muscle formation, and hematopoiesis in zebrafish. It supports studies examining metabolic pathway modulation, glycolytic flux during morphogenesis, and developmental phenotypes resulting from altered ATP generation or metabolic stress. NSJ Bioreagents provides this reagent within its zebrafish and metabolic biology antibody portfolio.

Application Notes

Optimal dilution of the Zebrafish Pgk1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Pgk1 recombinant protein (amino acids N138-N337) was used as the immunogen for the Zebrafish Pgk1 antibody.

Storage

After reconstitution, the Zebrafish Pgk1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.