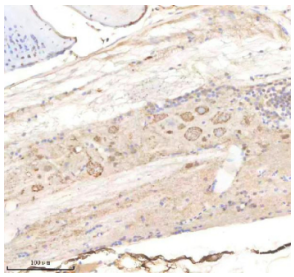
Zebrafish Pik3cb Antibody / Phosphatidylinositol-4,5-bisphosphate 3-kinase (RZ1232)

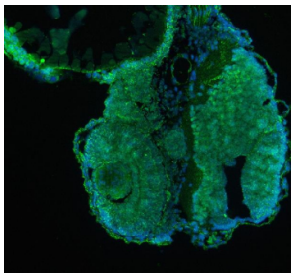
Catalog No.	Formulation	Size
RZ1232	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

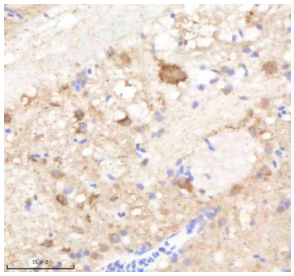
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	E7F251
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This Zebrafish Pik3cb antibody is available for research use only.



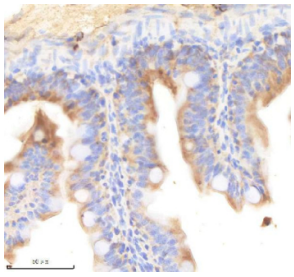
Zebrafish Pik3cb Antibody Spinal Cord Tissue IHC. Immunohistochemistry staining of FFPE zebrafish spinal cord tissue with Pik3cb antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



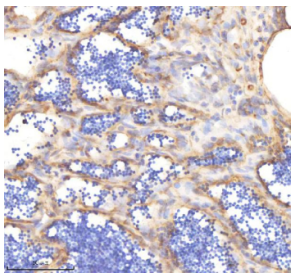
Zebrafish Pik3cb Antibody Embryo Tissue IF. Immunofluorescent staining of Pik3cb protein in Danio rerio embryo tissue using Zebrafish Pik3cb antibody (green) and DAPI nuclear stain (blue). HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



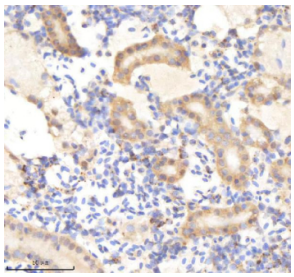
Zebrafish Pik3cb Antibody Brain Tissue IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Pik3cb antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



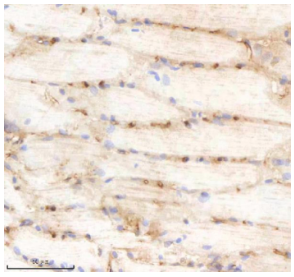
Zebrafish Pik3cb Antibody Colon Tissue IHC. Immunohistochemistry staining of FFPE zebrafish colon tissue with Pik3cb antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Pik3cb Antibody Testis Tissue IHC. Immunohistochemistry staining of FFPE zebrafish testis tissue with Pik3cb antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Pik3cb Antibody Kidney Tissue IHC. Immunohistochemistry staining of FFPE zebrafish kidney tissue with Pik3cb antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Pik3cb Antibody Muscle Tissue IHC. Immunohistochemistry staining of FFPE zebrafish muscle tissue with Pik3cb antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Pik3cb antibody targets Pik3cb, a catalytic subunit of class I phosphatidylinositol 3-kinase (PI3K) essential for intracellular signaling, metabolic regulation, and developmental growth programs in Danio rerio. Zebrafish, also known as Danio rerio, express pik3cb as one of the key components of PI3K signaling, where it generates phosphatidylinositol-3,4,5-trisphosphate to activate downstream effectors including Akt, mTOR, and other kinases. Pik3cb localizes primarily to the cytoplasm and plasma membrane, responding to upstream cues from receptor tyrosine kinases, integrins, and growth factor receptors. Its activity supports cell survival, proliferation, and metabolic homeostasis throughout embryogenesis and organ formation.

Pik3cb belongs to the phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit family, characterized by an N-terminal adaptor-binding domain, Ras-binding domain, C2 lipid-binding motif, helical region, and a C-terminal kinase domain. In zebrafish embryos, pik3cb is expressed in proliferative and metabolically active tissues including the developing brain, heart, somites, and hematopoietic regions. A Zebrafish Pik3cb antibody is suitable for research applications examining PI3K pathway activation, cytoplasmic and membrane-associated localization patterns, and growth factor-dependent signaling events across early developmental stages.

Pik3cb plays central roles in multiple developmental pathways. During organogenesis, PI3K signaling regulates survival of neural progenitors, influences cardiac morphogenesis, and modulates skeletal muscle development by controlling cell growth and differentiation. In metabolic tissues such as liver and pancreas, pik3cb contributes to insulin-responsive signaling networks that regulate glucose handling and energy balance. In hematopoietic and vascular tissues, PI3K activity supports endothelial cell survival and contributes to angiogenic sprouting. Disruption of pik3cb function alters proliferation, reduces Akt activation, and impairs growth and metabolic control in zebrafish models.

Structurally, zebrafish Pik3cb contains conserved domains enabling interaction with regulatory subunits such as Pik3r1 and Pik3r2, allowing formation of the heterodimeric PI3K complex. This complex integrates extracellular growth factor signals with intracellular metabolic responses. Zebrafish pik3cb maps to chromosome 15, with transcriptional regulation tied to growth, nutrient availability, and developmental signaling cues. Co-localization studies often detect Pik3cb in proximity to plasma membrane signaling complexes, frequently overlapping with markers of Akt phosphorylation or other PI3K pathway components.

A Zebrafish Pik3cb antibody is suitable for detecting Pik3cb in studies focused on growth factor signaling, PI3K-Akt pathway dynamics, metabolic regulation, and developmental physiology in Danio rerio. Its cytoplasmic and membrane-associated expression allows researchers to map regions of active PI3K signaling, evaluate the effects of genetic perturbations, and analyze tissue-specific responses to growth factors or metabolic stress. Pik3cb is widely used as a marker for PI3K pathway engagement in studies of organogenesis, developmental metabolism, and disease modeling. These features make the antibody valuable for research examining signal transduction, regulatory kinase networks, and vertebrate growth processes, and this reagent is supplied for research use by NSJ Bioreagents.

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

Application Notes

Optimal dilution of the Zebrafish Pik3cb antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Pik3cb recombinant protein (amino acids E562-L611) was used as the immunogen for the Zebrafish Pik3cb antibody.

Storage

After reconstitution, the Zebrafish Pik3cb antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.