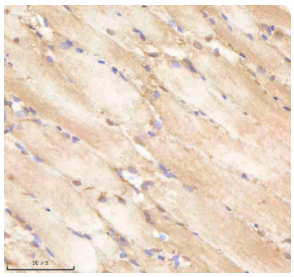
Zebrafish Pa2g4 Antibody / Pa2g4a / Pa2g4b (RZ1260)

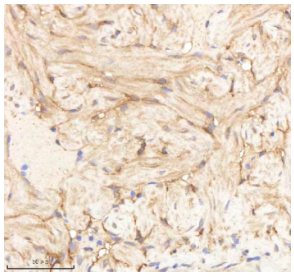
Catalog No.	Formulation	Size
RZ1260	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

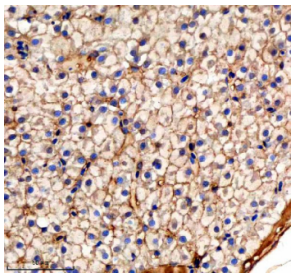
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q8AW82, Q6PHD8
Localization	Cytoplasmic, Nuclear (human similarity)
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Pa2g4 antibody is available for research use only.



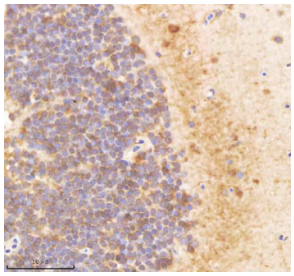
IHC staining of zebrafish Pa2g4 protein using Zebrafish Pa2g4 antibody, HRP-labeled secondary and DAB substrate. Pa2g4 was detected in a paraffin-embedded section of zebrafish muscle tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Pa2g4 protein using Zebrafish Pa2g4 antibody, HRP-labeled secondary and DAB substrate. Pa2g4 was detected in a paraffin-embedded section of zebrafish heart tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Pa2g4 protein using Zebrafish Pa2g4 antibody, HRP-labeled secondary and DAB substrate. Pa2g4 was detected in a paraffin-embedded section of zebrafish liver tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of zebrafish Pa2g4 protein using Zebrafish Pa2g4 antibody, HRP-labeled secondary and DAB substrate. Pa2g4 was detected in a paraffin-embedded section of zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish Pa2g4 antibody targets Pa2g4, including the duplicated paralogs Pa2g4a and Pa2g4b, a conserved nuclear and cytoplasmic regulatory protein involved in cell proliferation control, ribosome biogenesis, transcriptional regulation, and developmental signaling in Danio rerio. Zebrafish, also known as Danio rerio, express pa2g4a and pa2g4b in proliferative and differentiating tissues during early embryogenesis. Pa2g4 proteins localize to both the nucleus and cytoplasm, where they interact with transcription factors, chromatin-associated regulators, and components of the ribosome assembly machinery. These interactions allow Pa2g4 to modulate cell growth, lineage commitment, and tissue patterning during rapid embryonic development.

Pa2g4 belongs to the proliferation-associated 2G4 family (also known in mammals as Ebp1), a multifunctional regulatory group involved in controlling growth factor signaling, rRNA processing, and cell cycle progression. Zebrafish paralogs share conserved structural domains enabling them to bind nucleic acids, transcription factors, and regulatory protein complexes. A Zebrafish Pa2g4 antibody is suitable for detecting nuclear and cytoplasmic expression in tissues undergoing active proliferation, lineage differentiation, and developmental transitions.

Functionally, Pa2g4 integrates signaling pathways that influence cell growth and developmental patterning. It modulates EGF and ErbB receptor signaling, participates in transcriptional repression or activation depending on context, and contributes to ribosome assembly and rRNA maturation. In zebrafish embryos, Pa2g4 expression is detected in early neural tissue, craniofacial mesenchyme, somites, developing muscle, and proliferative zones of emerging organ primordia. Loss or disruption of pa2g4 paralogs can impair growth regulation, influence neural and muscular development, and disturb the balance between proliferation and differentiation required for normal pattern formation.

Structurally, zebrafish Pa2g4a and Pa2g4b contain conserved acidic and RNA-binding regions associated with ribosome biogenesis, along with domains enabling interaction with transcription factors and chromatin regulators. These structural features support roles in mRNA processing, gene expression control, and stabilization of protein complexes. Zebrafish pa2g4a maps to chromosome 2, while pa2g4b resides on chromosome 24, and both are regulated by developmental signals that manage cell cycle progression and tissue growth. Co-localization studies detect Pa2g4 in proliferative neural progenitors, craniofacial mesoderm, somitic muscle precursors, and other regions where transcriptional and translational regulation are highly active.

A Zebrafish Pa2g4 antibody is suitable for detecting Pa2g4 in studies focused on cell proliferation, ribosome biogenesis, transcriptional control, neural and muscular development, and growth factor signaling in Danio rerio. Its dual nuclear and cytoplasmic distribution provides insight into how regulatory proteins coordinate gene expression, growth cues, and biosynthetic capacity during embryogenesis. Researchers use Pa2g4 expression patterns to evaluate mutants affecting

cell cycle regulation, examine proliferative dynamics across tissues, and explore how signaling pathways shape early organ formation. This antibody is supplied for research use by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Pa2g4 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Pa2g4 recombinant protein (amino acids R137-K177) was used as the immunogen for the Zebrafish Pa2g4 antibody.

Storage

After reconstitution, the Zebrafish Pa2g4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.