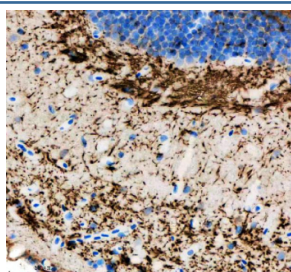


Zebrafish Hras Antibody / Isoforms a & b (RZ1080)

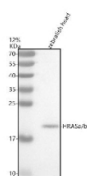
Catalog No.	Formulation	Size
RZ1080	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

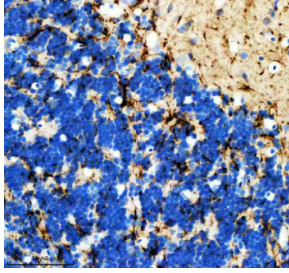
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q568K0, Q503B6
Localization	Nuclear, cytoplasmic, cell membrane
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Hras antibody is available for research use only.



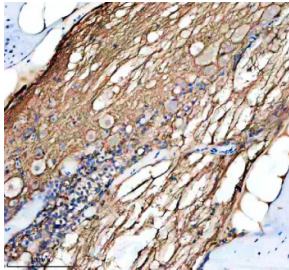
Zebrafish Hras Antibody Brain IHC. Immunohistochemical analysis of Hrasa/b protein using Zebrafish Hras antibody and paraffin-embedded zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



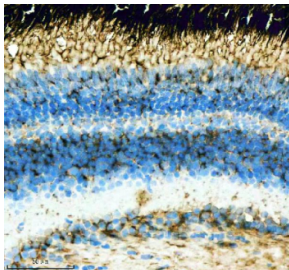
Zebrafish Hras Antibody WB. Western blot analysis of Hrasa/b protein using Zebrafish Hras antibody and zebrafish head tissue lysate. The predicted molecular weight of Hrasa/b is 21 kDa.



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



Zebrafish Hras Antibody Spinal Cord IHC. Immunohistochemical analysis of Hrasa/b protein using Zebrafish Hras antibody and paraffin-embedded zebrafish spinal cord tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Hras Antibody Eye IHC. Immunohistochemical analysis of Hrasa/b protein using Zebrafish Hras antibody and paraffin-embedded zebrafish eye tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (*Danio rerio*) Hras antibody recognizes Hras, detecting isoforms a and b encoded by zebrafish hras paralogs. Hras is a small GTPase within the Ras family of molecular switches that regulate cell proliferation, differentiation, migration, and survival. By cycling between inactive GDP-bound and active GTP-bound states, Hras transmits signals from receptor tyrosine kinases and other upstream cues to downstream effectors including MAPK and PI3K pathways. In *Danio rerio* embryos, hras expression is observed in developing brain, neural tube, somites, heart, vasculature, craniofacial mesenchyme, and endoderm-derived tissues such as liver and pancreas. Subcellular localization is cytoplasmic and membrane-associated, reflecting Hras's role in signal transduction at the plasma membrane and intracellular membranes.

Hras functions as a key regulatory node that integrates growth factor signaling, cytoskeletal dynamics, and transcriptional networks. During early embryogenesis, zebrafish tissues undergo rapid proliferation and morphogenesis that depend on tightly controlled Ras activity. Isoforms a and b may provide spatial or temporal distinctions in signaling strength or localization, enabling fine-tuned responses across developing tissues. Proper Hras regulation helps ensure balanced MAPK and PI3K-Akt signaling, preventing aberrant proliferation or insufficient survival signaling during organ formation.

Neural development relies significantly on Hras activity. Neural progenitors in the brain and spinal cord require controlled Ras signaling to regulate proliferation, neuroepithelial organization, and differentiation. Hras influences pathways that shape neuronal identity, axon guidance, and synaptic maturation. During neurite outgrowth, Ras-dependent cytoskeletal remodeling contributes to growth cone navigation and early network formation. Dysregulation of Hras can alter brain patterning or impair neuronal connectivity.

Somite and skeletal muscle development also depend on Hras-mediated regulation. Myogenic progenitors require Ras signaling inputs that support proliferation, lineage commitment, and formation of early contractile structures. Hras influences cytoskeletal organization and adhesion dynamics that underlie somite segmentation and myotome alignment.

Because muscle differentiation involves coordinated transitions between proliferative and differentiating states, Hras activity helps maintain developmental precision.

Cardiac development is strongly shaped by Ras signaling. In the embryonic heart, Hras contributes to cardiomyocyte proliferation, chamber morphogenesis, and metabolic transitions that support early contractility. Ras-dependent MAPK pathways regulate expression of structural and regulatory genes needed for myocardial growth. Endothelial and endocardial tissues also rely on Ras signaling to guide angiogenic sprouting, lumen formation, and vascular stabilization. Perturbation of hras expression may disrupt heart looping, vessel patterning, or cardiac output.

Endoderm-derived organs including liver and pancreas depend on Hras for metabolic and structural maturation. Ras signaling influences hepatocyte proliferation, endocrine lineage specification, and responses to oxidative or metabolic stress. In zebrafish, where organogenesis occurs rapidly, Hras helps coordinate transcriptional and signaling networks that govern tissue expansion and differentiation.

This Zebrafish Hras antibody is suitable for detecting Hras isoforms a and b in research focused on Ras signaling, neural development, muscle formation, cardiac and vascular biology, and metabolic organogenesis in zebrafish. NSJ Bioreagents provides this reagent within its zebrafish and signal-transduction antibody catalog.

For broader research into HRAS function, RAS/MAPK signaling and oncogenic pathway regulation, see our [HRAS Antibody](#) page.

This Zebrafish antibody is part of a [broader Zebrafish / Danio rerio antibody panel](#) offered by NSJ Bioreagents.

Application Notes

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

Immunogen

An E.coli-derived zebrafish Hrasa/b recombinant protein (amino acids K101-S177) was used as the immunogen for the Zebrafish Hras antibody. This antibody will detect the a and b isoforms.

Storage

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