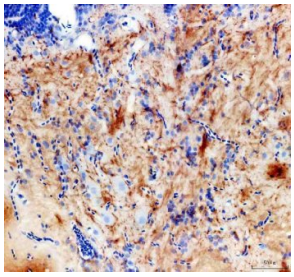
Zebrafish FZD3 Antibody / Frizzled 3 Antibody (RZ1421)

Catalog No.	Formulation	Size
RZ1421	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	A0A8M2B7P5
Applications	Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish FZD3 Antibody / Frizzled 3 Antibody is available for research use only.



Zebrafish FZD3 Antibody Brain IHC. Immunohistochemical analysis of FZD3A expression in paraffin-embedded zebrafish brain tissue using Zebrafish FZD3 Antibody / Frizzled 3 Antibody. Specific staining is observed within neural tissue, consistent with the known role of FZD3A in Wnt signaling and nervous system development. Heat-mediated antigen retrieval was performed in EDTA buffer prior to staining. Sections were blocked with 10% goat serum and incubated overnight at 4Â°C with rabbit anti-FZD3A antibody (2 ug/ml). Detection was performed using a peroxidase-conjugated goat anti-rabbit IgG secondary antibody followed by DAB chromogen development.

Description

Zebrafish FZD3 Antibody / Frizzled 3 Antibody recognizes FZD3A, one of the zebrafish orthologs of human FZD3 and a member of the Frizzled family of seven-transmembrane receptors. FZD3A functions as a receptor for Wnt proteins and plays a critical role in transmitting signals that regulate embryonic development, tissue patterning, and cell fate determination. Wnt-Frizzled signaling pathways are highly conserved among vertebrates and are essential for coordinating cell proliferation, migration, differentiation, and morphogenesis during development. The Frizzled family serves as a major gateway through which extracellular Wnt ligands influence cellular behavior, allowing developing tissues to respond to positional cues and environmental signals during embryogenesis.

FZD3A is particularly important in the developing nervous system, where it contributes to neuronal differentiation, axon

guidance, and the establishment of neural circuitry. Through both canonical and non-canonical Wnt signaling pathways, FZD3A helps direct cellular polarity and movement during embryogenesis. Studies in vertebrate models have shown that Frizzled 3 signaling is required for proper neural development and for the organization of tissues undergoing complex morphogenetic changes. The receptor has been implicated in processes that guide the growth and orientation of neurons, helping establish the connections necessary for normal nervous system function. These activities make FZD3A a valuable target for developmental neurobiology research using zebrafish models.

Beyond its role in neural development, FZD3A participates in the regulation of tissue architecture and organ formation throughout embryogenesis. Wnt signaling mediated through Frizzled receptors influences cell migration, directional movement, and the coordinated behaviors required for tissue remodeling. Because zebrafish embryos develop externally and are highly amenable to imaging studies, FZD3A expression and localization can provide important insights into the mechanisms governing vertebrate development. The conservation of Wnt signaling pathways between zebrafish and mammals further enhances the value of FZD3A as a research marker for comparative developmental studies.

Expression of FZD3A has been detected in developing neural tissues and other embryonic structures that rely on active Wnt signaling. Activation of FZD3A initiates intracellular signaling cascades that influence gene expression programs involved in growth, pattern formation, cellular communication, and tissue organization. Because Wnt signaling pathways regulate numerous developmental processes, FZD3A serves as an important marker for studies of embryology, neurobiology, stem cell biology, and developmental signaling networks. Altered Frizzled signaling has also been associated with a variety of developmental abnormalities and disease-related pathways, highlighting the broader biological significance of this receptor family.

Zebrafish FZD3 Antibody is useful for investigating Frizzled receptor expression, Wnt pathway activity, neural development, and embryonic tissue patterning in zebrafish models. Applications include western blotting, immunohistochemistry, immunofluorescence, and other techniques used to evaluate receptor localization and developmental signaling mechanisms. This antibody may aid researchers studying vertebrate development, nervous system formation, cellular polarity, and the molecular pathways that control tissue organization and morphogenesis.

Learn more about FZD3, a Frizzled family Wnt signaling receptor involved in neural development, cell polarity regulation, and tissue morphogenesis, on our FZD3 Antibody page.

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

Application Notes

The optimal working dilution of the Zebrafish FZD3 Antibody / Frizzled 3 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish FZD3A recombinant protein (amino acids Q106-A686) was used as the immunogen for the Zebrafish FZD3A Antibody.

Storage

After reconstitution, the Zebrafish FZD3A Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Zebrafish FZD3 Antibody, Zebrafish FZD3A Antibody, Zebrafish Frizzled 3 Antibody, Zebrafish Frizzled-3 Antibody, Zebrafish Frizzled 3 Receptor Antibody, Zebrafish Wnt Receptor FZD3 Antibody

Copyright © NSJ Bioreagents. All rights reserved.