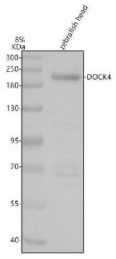
Zebrafish DOCK4 Antibody / Rac Signaling Protein Antibody (RZ1426)

Catalog No.	Formulation	Size
RZ1426	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	A0A8M9PEG0
Applications	Western blot: 0.5-1ug/ml
Limitations	This Zebrafish Zebrafish DOCK4 Antibody / Rac Signaling Protein Antibody is available for research use only.



Zebrafish DOCK4 Antibody WB. Western blot analysis of DOCK4A using anti-DOCK4 antibody demonstrates a distinct immunoreactive band at approximately 221 kDa in zebrafish head lysate, consistent with the expected molecular weight of Dedicator of Cytokinesis 4A (DOCK4A). DOCK4A is a Rac signaling protein that functions as a regulator of Rac-family GTPase signaling pathways involved in cytoskeletal organization, cellular adhesion, and directed cell movement. The observed expression in zebrafish head tissue is consistent with the established role of DOCK4 family proteins in developmental signaling, neuronal organization, and tissue morphogenesis. Western blot was performed using 0.5 ug/ml primary antibody. Predicted molecular weight: ~221 kDa.

Description

Zebrafish DOCK4 Antibody / Rac Signaling Protein Antibody is designed for the detection and study of DOCK4 (Dedicator of Cytokinesis 4), a member of the DOCK family of guanine nucleotide exchange factors that regulate small Rho GTPase signaling pathways. DOCK4 functions primarily through activation of Rac-family GTPases, which control numerous cellular processes including cytoskeletal organization, cell adhesion, polarity establishment, and directed cellular movement. Because Rac signaling pathways are essential for tissue formation and developmental patterning, DOCK4 serves as an important regulator of vertebrate growth and cellular organization.

As a Rac signaling protein, DOCK4 helps translate extracellular cues into intracellular responses that influence cell behavior. Activation of Rac-family GTPases promotes remodeling of the actin cytoskeleton, allowing cells to alter their shape, establish polarity, and coordinate interactions with neighboring cells and the extracellular environment. Through these mechanisms, DOCK4 contributes to pathways governing cellular communication, tissue architecture, and developmental morphogenesis.

Zebrafish provide a valuable model for studying Rac-dependent signaling mechanisms during embryogenesis and organ development. DOCK4 expression has been associated with biologic processes requiring coordinated cellular movement and tissue organization, including morphogenesis, neuronal development, and maintenance of epithelial integrity. Studies in vertebrate systems have demonstrated the importance of Rac signaling pathways in orchestrating complex developmental programs that depend on precise regulation of cellular dynamics and structural organization.

Beyond developmental biology, DOCK4 has attracted significant interest in research involving cancer progression, neuronal connectivity, wound repair, and cellular adhesion mechanisms. Altered DOCK4 activity can influence migratory behavior, cytoskeletal remodeling, and signaling networks that regulate normal and pathologic cellular responses. Consequently, DOCK4 remains an important target for investigations examining how Rac-mediated pathways control cell behavior and tissue organization.

Zebrafish DOCK4 Antibody is useful for investigating Rac signaling, cytoskeletal regulation, cell adhesion, and developmental biology pathways. Researchers utilize DOCK4 expression studies to better understand molecular mechanisms governing cellular communication, tissue morphogenesis, structural organization, and vertebrate development.

For additional information on DOCK4 function, Rac signaling pathways, and regulation of cellular motility, visit our DOCK4 Antibody / Cell Migration Protein 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 DOCK4 Antibody / Rac Signaling Protein Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish DOCK4A recombinant protein (amino acids E490-H1632) was used as the immunogen for the Zebrafish DOCK4 Antibody.

Storage

After reconstitution, the Zebrafish DOCK4 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 DOCK4 Antibody, Zebrafish Dedicator of Cytokinesis 4 Antibody, Zebrafish Rac Signaling Protein Antibody, Zebrafish Rac Activator Antibody, Zebrafish Cytoskeletal Regulation Protein Antibody, Zebrafish Cell Adhesion Protein Antibody, Zebrafish Rho GEF Family Protein Antibody

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