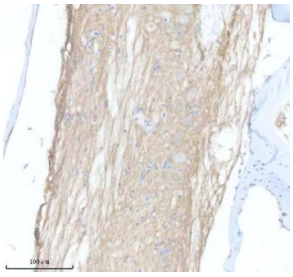
Zebrafish CXCR7A Antibody / ACKR3A Antibody (RZ1330)

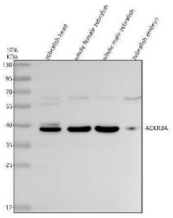
Catalog No.	Formulation	Size
RZ1330	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	A0A2R8PYR8
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Zebrafish CXCR7A Antibody / ACKR3A Antibody is available for research use only.



Zebrafish CXCR7A Antibody Spinal Cord IHC. Immunohistochemistry staining of FFPE zebrafish spinal cord tissue using Zebrafish CXCR7A Antibody demonstrates diffuse cytoplasmic and membrane-associated HRP-DAB brown staining throughout elongated neural tissue structures. The staining pattern is consistent with expression of CXC Chemokine Receptor 7A (CXCR7A), also known as Atypical Chemokine Receptor 3A (ACKR3A), a chemokine receptor involved in regulation of CXCL12 signaling, cell migration, and developmental tissue patterning. Signal is observed within spinal cord-associated cellular compartments and neural processes, reflecting the established role of CXCR7A in directing cellular positioning and organization during vertebrate development. Heat mediated antigen retrieval was performed in EDTA buffer. Primary antibody was incubated overnight at 4Â°C followed by detection using a peroxidase-conjugated goat anti-rabbit secondary antibody and DAB chromogen.



Zebrafish CXCR7A Antibody Chemokine Receptor WB. Western blot analysis of zebrafish head tissue, whole female zebrafish, whole male zebrafish, and zebrafish embryo lysates using Zebrafish CXCR7A Antibody demonstrates a prominent immunoreactive band at approximately 40 kDa, consistent with the predicted molecular weight of CXC Chemokine Receptor 7A (CXCR7A). Also known as Atypical Chemokine Receptor 3A (ACKR3A), CXCR7A functions as an atypical chemokine receptor that regulates CXCL12 availability and contributes to cell migration, tissue patterning, and developmental signaling pathways. Comparable detection across multiple zebrafish tissue sources is consistent with the broad biological functions of CXCR7A during vertebrate development. Electrophoresis was performed on a 10% SDS-PAGE gel under reducing conditions followed by transfer to a nitrocellulose membrane. Signal was detected using an HRP-conjugated secondary antibody and enhanced chemiluminescent substrate. Predicted molecular weight: ~40 kDa.

Description

Zebrafish CXCR7A Antibody / ACKR3A Antibody recognizes CXC Chemokine Receptor 7A (CXCR7A), also known as Atypical Chemokine Receptor 3A (ACKR3A), a seven-transmembrane chemokine receptor that plays a critical role in regulating chemokine signaling, cell migration, and tissue patterning during vertebrate development. Unlike classical chemokine receptors that primarily activate G protein-mediated signaling pathways, CXCR7A functions predominantly as an atypical receptor that modulates extracellular chemokine gradients through ligand sequestration, internalization, and redistribution. This activity allows CXCR7A to regulate the availability of CXCL12 and related chemokines, thereby influencing the directional migration and positioning of developing cell populations. The zebrafish model has become particularly valuable for studying CXCR7A biology because of its accessibility for live imaging, developmental analysis, and genetic manipulation.

Chemokine signaling pathways are essential regulators of embryonic development, coordinating cell migration, tissue organization, vascular patterning, and nervous system formation. CXCR7A works in concert with CXCR4 family receptors to establish and refine CXCL12 gradients that guide migrating cells toward appropriate developmental destinations. In zebrafish, CXCR7A has been implicated in primordial germ cell migration, neuronal positioning, cardiovascular development, and morphogenetic processes that require precise spatial control of cellular movement. Disruption of CXCR7A expression or function can alter chemokine distribution and lead to developmental abnormalities, highlighting its importance in tissue patterning and embryogenesis.

As an atypical chemokine receptor, CXCR7A is widely regarded as a scavenging receptor that shapes signaling environments rather than functioning solely as a conventional signaling receptor. Following ligand binding, the receptor undergoes internalization and contributes to chemokine clearance, thereby fine-tuning cellular responses to migratory cues. This regulatory mechanism enables developing tissues to maintain appropriate chemokine gradients and coordinate complex patterns of cell behavior. Consequently, CXCR7A expression is frequently examined in studies investigating stem cell migration, developmental signaling pathways, regenerative biology, and tissue morphogenesis.

Beyond embryonic development, chemokine receptor networks contribute to inflammation, wound repair, angiogenesis, and tissue regeneration. Because zebrafish possess robust regenerative capabilities and highly conserved chemokine signaling systems, CXCR7A has emerged as an important target in studies examining regenerative responses and tissue remodeling. Researchers frequently utilize zebrafish models to investigate how chemokine receptor activity influences cellular behavior during both normal physiological processes and experimental perturbations. The ability of CXCR7A to regulate chemokine availability places it at the center of numerous signaling pathways that coordinate tissue organization and cellular migration.

At NSJ Bioreagents, we provide highly validated antibodies for developmental biology, cell signaling, and zebrafish research. Zebrafish CXCR7A Antibody / ACKR3A Antibody targets a key regulator of chemokine gradient formation and directed cell migration. CXCR7A expression is widely studied in the context of embryonic development, vascular biology,

neuronal patterning, regenerative processes, and CXCL12-mediated signaling pathways. Continued investigation of this atypical chemokine receptor is expanding our understanding of the molecular mechanisms that govern cell positioning, tissue organization, and vertebrate development.

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 CXCR7A Antibody / ACKR3A Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish ACKR3A/CXCR7A recombinant protein (amino acids M1-A324) was used as the immunogen for the Zebrafish CXCR7A Antibody.

Storage

After reconstitution, the Zebrafish CXCR7A 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 ACKR3A Antibody, Zebrafish Atypical Chemokine Receptor 3A Antibody, Zebrafish Chemokine Receptor CXCR7A Antibody, Zebrafish CXCL12 Receptor Antibody, Zebrafish Stromal Cell-Derived Factor Receptor Antibody, Zebrafish Chemokine Scavenger Receptor Antibody

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