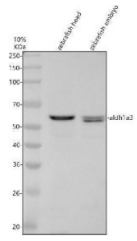
Zebrafish ALDH1A3 Antibody / RALDH3 Antibody (RZ1445)

Catalog No.	Formulation	Size
RZ1445	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	Q0H2G3
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish ALDH1A3 Antibody / RALDH3 Antibody is available for research use only.



Zebrafish ALDH1A3 Antibody WB. Western blot analysis of ALDH1A3 using anti-ALDH1A3 antibody demonstrates a distinct immunoreactive band at approximately 56 kDa in zebrafish head and embryo tissue lysates, consistent with the expected molecular weight of ALDH1A3, the zebrafish ortholog of human Aldehyde Dehydrogenase 1 Family Member A3. Also known as RALDH3, ALDH1A3 is an NAD-dependent enzyme that catalyzes the conversion of retinaldehyde to retinoic acid, an essential signaling molecule involved in embryonic patterning, tissue differentiation, and vertebrate development. The observed expression in both adult and embryonic samples is consistent with the important role of ALDH1A3 in retinoid metabolism and developmental signaling pathways. Western blot was performed using 0.5 ug/ml primary antibody. Predicted molecular weight: ~56 kDa.

Description

Zebrafish ALDH1A3 Antibody / Retinoic Acid Biosynthesis Enzyme Antibody is designed for the detection and study of ALDH1A3, the zebrafish ortholog of human Aldehyde Dehydrogenase 1 Family Member A3. ALDH1A3 is an NAD-dependent oxidoreductase that catalyzes the conversion of retinaldehyde to retinoic acid, a critical signaling molecule involved in vertebrate development and tissue patterning. Through its role in retinoid metabolism, ALDH1A3 contributes to cellular differentiation, organogenesis, and maintenance of developmental signaling pathways.

ALDH1A3 belongs to the aldehyde dehydrogenase superfamily, a group of enzymes responsible for oxidation of aldehydes to their corresponding carboxylic acids. Among these enzymes, ALDH1A3 is particularly important for the synthesis of retinoic acid, which functions as a morphogen regulating transcriptional programs that control embryonic patterning and tissue specification. Because retinoic acid signaling is highly conserved among vertebrates, ALDH1A3 has become an important target in developmental biology research.

Zebrafish provide a valuable model for studying retinoid signaling because developmental processes and metabolic pathways are strongly conserved between fish and mammals. Investigations utilizing Zebrafish ALDH1A3 Antibody can help characterize expression patterns associated with embryogenesis, nervous system development, sensory organ formation, and tissue differentiation. Studies of ALDH1A3 continue to provide important insights into the mechanisms that coordinate vertebrate development and cellular specialization.

Beyond developmental biology, ALDH1A3 has attracted considerable interest in stem cell biology, regenerative medicine, and cancer research. Retinoic acid signaling pathways influence cellular identity, differentiation status, and tissue homeostasis, making ALDH1A3 a useful marker for studies examining developmental metabolism and signaling networks. Researchers utilize Zebrafish ALDH1A3 Antibody to investigate retinoid metabolism, developmental regulation, and molecular mechanisms governing vertebrate physiology.

Learn more about ALDH1A3 function, retinoic acid synthesis, and retinoid metabolism on our ALDH1A3 Antibody / Retinoic Acid Synthesis Enzyme 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 ALDH1A3 Antibody / RALDH3 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish ALDH1A3 recombinant protein (amino acids M1-L513) was used as the immunogen for the Zebrafish ALDH1A3 Antibody.

Storage

After reconstitution, the Zebrafish ALDH1A3 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 ALDH1A3 Antibody, Zebrafish Aldehyde Dehydrogenase 1 Family Member A3 Antibody, Zebrafish Retinaldehyde Dehydrogenase 3 Antibody, Zebrafish RALDH3 Antibody, Zebrafish Retinoic Acid Biosynthesis Enzyme Antibody, Zebrafish Aldehyde Oxidoreductase Antibody, Zebrafish Developmental Metabolism Protein Antibody