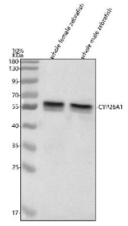
Zebrafish Cyp26a1 Antibody / Cytochrome P450 26A1 (RZ1216)

Catalog No.	Formulation	Size
RZ1216	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	P79739
Applications	Western Blot: 0.5-1ug/ml
Limitations	This Zebrafish Cyp26a1 antibody is available for research use only.



Zebrafish Cyp26a1 / Cytochrome P450 26A1 Antibody Tissue WB. Western blot analysis of Cyp26a1 protein using Zebrafish Cyp26a1 antibody and 1) whole female zebrafish tissue lysates and 2) whole male zebrafish tissue lysates. Predicted molecular weight ~56 kDa.

Description

The Zebrafish Cyp26a1 antibody targets Cyp26a1, a cytochrome P450 enzyme essential for retinoic acid metabolism, anterior-posterior patterning, and organogenesis in Danio rerio. Zebrafish, also known as Danio rerio, express cyp26a1 as one of the primary retinoic acid-degrading enzymes responsible for shaping spatial gradients of retinoid signaling during early embryogenesis. Localized to the endoplasmic reticulum, Cyp26a1 converts all-trans retinoic acid into hydroxylated metabolites, thereby restricting retinoic acid distribution and preventing excess signaling that would disrupt tissue identity, segmentation, and morphogenetic processes.

Cyp26a1 belongs to the cytochrome P450 family 26 subfamily, a group dedicated to controlling retinoid homeostasis across vertebrates. In zebrafish embryos, cyp26a1 expression is highly responsive to retinoic acid levels and is strongly enriched in anterior neural territories, including the forebrain and hindbrain boundaries. This expression pattern ensures low retinoic acid in the head region, enabling proper formation of the brain, eyes, and craniofacial structures. A Zebrafish Cyp26a1 antibody is suitable for research applications examining endoplasmic reticulum-localized expression in regions where retinoic acid must be tightly regulated during pattern formation.

Cyp26a1 plays a central role in maintaining the retinoic acid gradient that controls posteriorization, somite formation, and body axis specification. By degrading retinoic acid, Cyp26a1 prevents inappropriate posterior identity programs from encroaching into anterior neural and craniofacial domains. Its regulatory function also influences neural crest migration, cardiovascular patterning, fin development, and early organ formation. Loss of cyp26a1 function disrupts anterior development, leading to expanded posterior fates, improper segmentation, and defects in head structure formation.

Structurally, zebrafish Cyp26a1 contains the conserved heme-binding domain characteristic of cytochrome P450 enzymes, along with a membrane anchor that localizes it to the endoplasmic reticulum. These structural features enable electron transfer from associated redox partners and support sequential oxidative reactions that break down retinoic acid. Zebrafish cyp26a1 maps to chromosome 18, with regulatory elements conferring strong retinoic acid inducibility and region-specific expression. Co-localization studies often detect Cyp26a1 in neuroepithelial territories marked by low retinoic acid activity, confirming its role in shaping retinoid gradients.

A Zebrafish Cyp26a1 antibody is suitable for detecting Cyp26a1 in studies focused on retinoic acid signaling dynamics, neural patterning, somite specification, and organogenesis in Danio rerio. Because Cyp26a1 defines territories protected from retinoic acid exposure, its expression is a critical marker for assessing morphogen regulation and developmental boundary formation. Researchers use Cyp26a1 to examine how disruptions in retinoid metabolism influence early embryonic patterning, craniofacial development, and tissue-specific differentiation programs. These applications make the antibody a valuable tool for studies of vertebrate morphogenesis, signaling pathway modulation, and the integration of retinoid metabolism with genetic regulation, and this reagent is supplied for research use by NSJ Bioreagents.

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

Application Notes

Optimal dilution of the Zebrafish Cyp26a1 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Cyp26a1 recombinant protein (amino acids E56-R425) was used as the immunogen for the Zebrafish Cyp26a1 antibody.

Storage

After reconstitution, the Zebrafish Cyp26a1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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