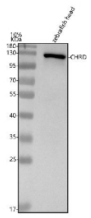
Zebrafish Chordin Antibody / Chd / Chrd (RZ1209)

Catalog No.	Formulation	Size
RZ1209	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	O57472
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish Chordin antibody is available for research use only.



Zebrafish Chordin Antibody Head Tissue WB. Western blot analysis of Chordin protein using Zebrafish Chordin antibody and zebrafish head tissue lysates. Predicted molecular weight ~105 kDa but may be observed at higher molecular weights due to glycosylation.

Description

The Zebrafish Chordin antibody targets Chordin, a secreted developmental regulator essential for dorsal-ventral patterning, organizer function, and early morphogenesis in Danio rerio. Zebrafish, also known as Danio rerio, express chordin (chd/chrd) as a major dorsalizing factor produced by the embryonic organizer. Chordin is a secreted extracellular matrix-associated protein that antagonizes Bmp signaling by directly binding Bmp ligands and preventing their engagement with receptors. This interaction shapes the Bmp activity gradient that establishes dorsal, intermediate, and ventral cell fates during gastrulation. ChordinÃ¢Â€Â™s patterning role is fundamental to establishing the body axis, germ layer identity, and subsequent organogenic programs in zebrafish embryos.

Chordin belongs to a family of secreted Bmp-binding proteins characterized by multiple cysteine-rich (CR) domains responsible for ligand interactions. In zebrafish embryos, chordin is expressed robustly in the shield region, prechordal plate, and notochord precursors, marking tissues that orchestrate dorsal specification. A Zebrafish Chordin antibody is suitable for research applications examining extracellular distribution, organizer domain formation, and the spatial antagonism of Bmp signaling during early development.

Chordin plays a central role in shaping the Bmp signaling gradient that patterns embryonic tissues. By binding and sequestering Bmp2b, Bmp4, and related ligands, Chordin shifts the balance of signaling toward dorsal identities and away from ventralizing inputs. The Chordin-Bmp system is further refined by Tolloid family metalloproteases, which cleave Chordin to release bound Bmp ligands, enabling fine-tuned spatial and temporal control over morphogen dynamics. This regulatory interplay is essential for setting up axis specification, neural plate induction, somite patterning, and craniofacial developmental processes across Danio rerio embryos.

Structurally, Chordin is composed of multiple CR domains arranged along a secreted polypeptide backbone, enabling multivalent interactions with Bmp ligands in the extracellular matrix. Zebrafish chordin maps to chromosome 14, where genomic regulatory elements drive its early and organizer-specific expression. Co-localization studies frequently detect Chordin in dorsal midline structures, including the developing notochord and prechordal mesoderm, along with markers of reduced Bmp signaling such as phosphorylated Smad1/5/9 in lower-activity domains. These spatial patterns reflect Chordin's role as a morphogen antagonist that establishes dorsal fates in a dose-dependent manner.

A Zebrafish Chordin antibody is suitable for detecting Chordin in studies investigating dorsal-ventral patterning, morphogen gradient formation, neural induction, and organizer function in Danio rerio. Its extracellular localization provides insight into tissue-level signaling interactions, morphogen sequestration, and gradient refinement during gastrulation and early organogenesis. Chordin expression also contributes to craniofacial patterning and axial mesoderm formation, making it valuable for research examining how secreted antagonists integrate with growth factor signals to generate precise developmental outcomes. These features support investigations into Bmp regulation, organizer biology, and embryonic axis specification, 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 Chordin antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Chordin recombinant protein (amino acids H69-H940) was used as the immunogen for the Zebrafish Chordin antibody.

Storage

After reconstitution, the Zebrafish Chordin 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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