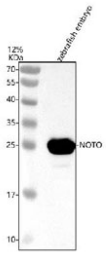
Zebrafish Noto Antibody / Notochord homeobox protein / Floating head (RZ1251)

Catalog No.	Formulation	Size
RZ1251	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	Q90461
Applications	Western Blot: 0.5-1ug/ml
Limitations	This Zebrafish Noto antibody is available for research use only.



Zebrafish Noto Antibody Tissue WB. Western blot analysis of Noto protein using Zebrafish Noto antibody and zebrafish embryo tissue lysates. Predicted molecular weight ~27 kDa.

Description

The Zebrafish Noto antibody targets Noto, also known as Notochord homeobox protein or Floating head, a transcription factor essential for notochord formation, axial patterning, and early mesoderm differentiation in Danio rerio. Zebrafish, also known as Danio rerio, express noto in the dorsal organizer and axial mesoderm beginning at gastrulation, where it functions as a key regulator of notochord identity and midline structure formation. Noto localizes to the nucleus, where it activates gene expression programs that support notochord specification, structural maintenance, and signaling functions required for proper vertebrate axis development.

Noto belongs to the homeodomain-containing transcription factor family and contains a conserved 60-amino-acid homeodomain that mediates DNA binding and transcriptional regulation. In zebrafish embryos, noto expression appears first in organizer-derived axial mesoderm, then becomes strongly enriched in the forming notochord as germ layers undergo convergence and extension. A Zebrafish Noto antibody is suitable for detecting nuclear expression in axial progenitors and notochord domains that play foundational roles in embryonic patterning and mechanical support.

Functionally, Noto is indispensable for notochord development and midline integrity. It activates genes critical for notochord differentiation, extracellular matrix organization, and structural rigidity, including components of the vacuolated cell system characteristic of the zebrafish notochord. Noto also regulates signals that pattern adjacent tissues, influencing neural tube shaping, somite boundary alignment, and floor plate induction. Loss of noto in zebrafish results in the classic floating head phenotype, marked by absent or severely disrupted notochord formation, neural tube defects, somite disorganization, and impaired axis elongation. Because notochord-derived cues guide cell movements and tissue boundaries, Noto is a central regulator of early vertebrate morphogenesis.

Structurally, zebrafish Noto contains an N-terminal activation region, the homeodomain for DNA binding, and C-terminal regulatory segments that mediate interaction with co-factors. These domains enable Noto to coordinate transcriptional networks governing axial mesoderm commitment and notochord differentiation. Zebrafish noto maps to chromosome 19, with regulatory elements responsive to organizer signals such as Nodal, Fgf, and Wnt pathways. Co-localization studies detect Noto in axial mesoderm, developing notochord cells, and midline structures that overlap with markers including shh, ntl, and col9a2, reflecting its role in structural and signaling functions of the embryonic midline.

A Zebrafish Noto antibody is suitable for detecting Noto in studies focused on notochord development, axial patterning, organizer signaling, and early mesodermal differentiation in Danio rerio. Its nuclear labeling provides precise visualization of axial progenitors and notochord cells, enabling researchers to analyze morphogenetic defects, evaluate mutants affecting organizer activity, and investigate how signaling pathways guide midline formation. Because the notochord influences both mechanical and signaling aspects of embryogenesis, Noto expression is widely used to explore axis integrity, neural tube formation, somite patterning, and early tissue interactions. This antibody 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 Noto antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Noto recombinant protein (amino acids M1-D241) was used as the immunogen for the Zebrafish Noto antibody.

Storage

After reconstitution, the Zebrafish Noto 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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