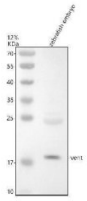
Zebrafish VENTX Antibody / Vega2 Antibody (RZ1405)

Catalog No.	Formulation	Size
RZ1405	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	Q9DGM9
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Zebrafish VENTX Antibody / Vega2 Antibody is available for research use only.



Zebrafish VENTX Antibody Embryo WB. Western blot analysis of zebrafish embryo lysate using Zebrafish VENTX Antibody / Vega2 Antibody demonstrates a distinct immunoreactive band at approximately 19 kDa, consistent with expression of Vega2 (vent), a zebrafish homeobox transcription factor and ortholog of human VENTX. Vega2 functions as a key regulator of dorsoventral patterning, mesoderm specification, and embryonic development through transcriptional control of genes involved in early developmental signaling pathways. The observed band corresponds closely with the expected molecular weight of the target protein and supports specific detection of endogenous Vega2 in developing zebrafish embryonic tissue. Primary antibody was used at 0.5 ug/ml. Predicted and observed molecular weight: approximately 19 kDa.

Description

Zebrafish VENTX Antibody / Vega2 Antibody detects Vega2 (vent), a zebrafish homeobox transcription factor and ortholog of human VENTX. Vega2 functions as a DNA-binding regulatory protein that controls gene expression programs involved in embryonic patterning, mesoderm specification, dorsoventral axis formation, and early developmental signaling. As a member of the NKL subclass of homeobox transcription factors, Vega2 plays a critical role in establishing ventral cell fates during embryogenesis and contributes to the coordinated regulation of developmental pathways required for normal vertebrate body plan formation. Zebrafish VENTX Antibody is valuable for investigations of embryonic development and transcriptional regulation.

Vega2 acts downstream of developmental signaling pathways including BMP-mediated patterning networks that regulate dorsoventral organization of the embryo. Through transcriptional control of downstream target genes, Vega2 influences cellular identity, tissue specification, and developmental competence during early embryogenesis. These activities help coordinate the formation of ventral mesodermal structures and contribute to the proper balance between dorsal and ventral developmental programs.

In zebrafish, Vega2 expression is closely associated with early embryonic tissues undergoing active patterning and morphogenetic regulation. The protein has been widely studied as a marker of ventral developmental signaling and is frequently utilized to investigate mechanisms governing embryonic axis formation, tissue specification, and transcriptional control during vertebrate development. Because zebrafish embryos develop externally and can be readily visualized throughout embryogenesis, Vega2 serves as a useful model for studying conserved developmental pathways.

Homeobox transcription factors are master regulators of development that coordinate complex gene expression networks controlling cellular differentiation and tissue organization. Vega2 contributes to these processes by regulating transcriptional programs that influence embryonic patterning and developmental fate decisions. Researchers frequently utilize Zebrafish VENTX Antibody to examine developmental signaling pathways and investigate molecular mechanisms underlying vertebrate embryogenesis.

Beyond its importance in developmental biology, Vega2 provides insight into evolutionarily conserved transcriptional regulatory mechanisms shared across vertebrate species. Comparative studies of VENTX-related proteins help define how developmental gene networks are established and maintained during embryonic growth. Analysis of Vega2 expression contributes to a broader understanding of the molecular pathways that govern tissue patterning and developmental organization.

Zebrafish VENTX Antibody / Vega2 Antibody is useful for researchers studying embryonic development, dorsoventral patterning, mesoderm specification, developmental signaling, transcriptional regulation, homeobox proteins, developmental genetics, and vertebrate organogenesis. Applications may include immunohistochemistry, immunofluorescence, western blotting, and other protein expression analyses when supported by validation data.

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 VENTX Antibody / Vega2 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish Homeobox protein Vega2 recombinant protein (amino acids M1-F170) was used as the immunogen for the Zebrafish VENTX / Vega2 Antibody.

Storage

After reconstitution, the Zebrafish VENTX / Vega2 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 VENTX Antibody, Zebrafish Vega2 Antibody, Zebrafish Vent Antibody, Zebrafish Vent Homeobox Antibody, Zebrafish Ventral Mesoderm Homeobox Antibody, Zebrafish Homeobox Transcription Factor Antibody