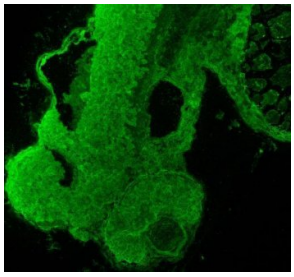
Zebrafish FOXA1 Antibody / Forkhead Box A1 Antibody (RZ1379)

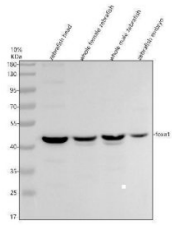
Catalog No.	Formulation	Size
RZ1379	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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	Q6P0C9
Applications	Western blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml
Limitations	This Zebrafish FOXA1 Antibody / Forkhead Box A1 Antibody is available for research use only.



Zebrafish FOXA1 Antibody Embryo IF. Immunofluorescent staining of paraffin-embedded zebrafish embryo tissue using Zebrafish FOXA1 Antibody / Forkhead Box A1 Antibody demonstrates strong green fluorescence throughout developing embryonic tissue structures. The staining pattern is consistent with expression of FOXA1, a forkhead family transcription factor that functions as a pioneer regulator of chromatin accessibility and developmental gene expression. FOXA1 plays important roles in embryonic patterning, endoderm development, organogenesis, and tissue-specific differentiation. The observed staining highlights regions of active developmental regulation within the embryo, supporting the importance of FOXA1 during early tissue formation and maturation. Heat-mediated antigen retrieval was performed in EDTA buffer. Sections were blocked with 10% goat serum and incubated overnight at 4Â°C with 5 Âµg/ml primary antibody, followed by DyLight 488-conjugated goat anti-rabbit IgG secondary antibody at 1:500 dilution for 30 minutes at 37Â°C.



Zebrafish FOXA1 Antibody Western Blot. Western blot analysis of zebrafish head tissue lysate (lane 1), whole female zebrafish tissue lysate (lane 2), whole male zebrafish tissue lysate (lane 3), and zebrafish embryo tissue lysate (lane 4) using Zebrafish FOXA1 Antibody / Forkhead Box A1 Antibody demonstrates a distinct band at approximately 46 kDa, consistent with the expected molecular weight of FOXA1. FOXA1 is a forkhead family transcription factor and pioneer regulator that facilitates chromatin accessibility and controls gene expression programs involved in embryonic development, organogenesis, endoderm specification, and tissue differentiation. Detection of the expected molecular weight band in both adult and embryonic zebrafish samples supports the broad developmental role of FOXA1 and its utility as a marker of transcriptional regulation during tissue formation and maturation. Electrophoresis was performed using a 10% SDS-PAGE gel under reducing conditions with 30 Âµg of protein loaded per lane. Signal was visualized using HRP-conjugated secondary antibody and ECL detection.

Description

Zebrafish FOXA1 Antibody / Forkhead Box A1 Antibody is useful for studying Forkhead Box A1 (FOXA1), a member of the forkhead family of DNA-binding transcription factors that functions as a critical regulator of embryonic development, cellular differentiation, and tissue-specific gene expression. FOXA1 is widely recognized as a pioneer transcription factor because it can bind condensed chromatin and facilitate access of additional transcriptional regulators to target genomic regions. Through this activity, FOXA1 plays an essential role in establishing developmental gene expression programs and cellular identity.

In zebrafish, FOXA1 contributes to the development and differentiation of endoderm-derived tissues, including the liver, pancreas, gastrointestinal tract, and other epithelial organs. Expression of FOXA1 is important during early embryogenesis, where it helps regulate transcriptional networks that guide tissue specification, organogenesis, and developmental patterning. As a result, FOXA1 is frequently studied in developmental biology and organ formation research using zebrafish models.

FOXA1 functions by recognizing specific DNA motifs and regulating the expression of genes involved in cellular differentiation, morphogenesis, metabolism, and tissue maturation. Its pioneer factor activity enables chromatin remodeling and transcriptional activation of developmental programs that would otherwise remain inaccessible. Through these mechanisms, FOXA1 serves as an important molecular regulator linking chromatin organization to lineage-specific gene expression.

Zebrafish has become an important model for investigating FOXA1 biology because of its rapid embryonic development, genetic tractability, and optical transparency. FOXA1 has been widely utilized in studies examining endoderm formation, digestive system development, hepatic differentiation, pancreatic biology, and epithelial tissue maturation. Analysis of FOXA1 expression can provide insight into the molecular pathways that govern organ development and tissue-specific differentiation programs.

Beyond developmental processes, FOXA1 participates in transcriptional networks that influence tissue homeostasis and cellular function. Because FOXA1 regulates large gene expression programs associated with differentiated cellular states, it remains an important target in studies of developmental signaling, transcriptional regulation, stem cell biology, and regenerative research. These characteristics have established FOXA1 as a valuable biomarker of lineage commitment and developmental gene regulation.

Zebrafish FOXA1 antibodies are commonly used in immunohistochemistry, immunofluorescence, western blotting, and related protein detection applications to evaluate FOXA1 expression and localization. These reagents support investigations of developmental biology, organogenesis, transcriptional regulation, epithelial differentiation, endoderm development, and tissue maturation in zebrafish research models.

Learn more about FOXA1 function in developmental gene regulation, organogenesis, epithelial differentiation, and tissue-specific transcriptional control on our FOXA1 Antibody 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 FOXA1 Antibody / Forkhead Box A1 Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish FOXA1 recombinant protein (amino acids M1-Q416) was used as the immunogen for the Zebrafish FOXA1 Antibody.

Storage

After reconstitution, the Zebrafish FOXA1 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 Forkhead Box A1 Antibody, Zebrafish HNF3A Antibody, Zebrafish Hepatocyte Nuclear Factor 3 Alpha Antibody, Zebrafish Pioneer Transcription Factor Antibody, Zebrafish Endoderm Development Protein Antibody, Zebrafish Developmental Transcription Factor Antibody

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