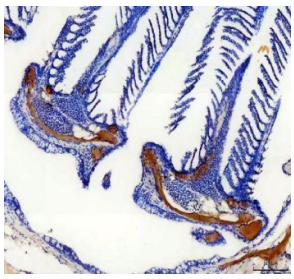
Zebrafish COL10A1 Antibody / Collagen Type X Alpha 1a Antibody (RZ1430)

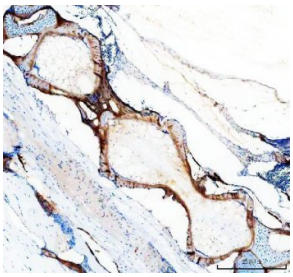
Catalog No.	Formulation	Size
RZ1430	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

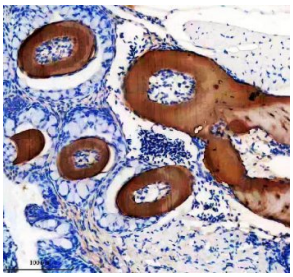
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	A2RQR3
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish COL10A1 Antibody / Collagen Type X Alpha 1a Antibody is available for research use only.



Zebrafish COL10A1 Antibody Gill IHC. Immunohistochemistry staining of paraffin-embedded zebrafish gill tissue using COL10A1 antibody demonstrates prominent staining within extracellular matrix-rich structural elements of the gill apparatus, consistent with expression of Collagen Type X Alpha 1a (COL10A1A). COL10A1A is a structural extracellular matrix protein that contributes to cartilage maturation, matrix organization, and skeletal development. The observed staining pattern within supportive gill structures is consistent with the established role of type X collagen family members in maintaining specialized extracellular matrix environments and supporting tissue architecture during vertebrate development. Heat-mediated antigen retrieval was performed in EDTA buffer. Tissue sections were stained with 2 ug/ml primary antibody and visualized using DAB chromogen.



Zebrafish COL10A1 Antibody IHC. Immunohistochemistry analysis of COL10A1A using anti-COL10A1 antibody. COL10A1A was detected in a paraffin-embedded section of zebrafish vertebra tissue. Heat mediated antigen retrieval was performed in EDTA buffer. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-COL10A1A Antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using DAB as the chromogen.



Zebrafish COL10A1 Antibody Tooth IHC. Immunohistochemistry staining of paraffin-embedded zebrafish tooth tissue using COL10A1 antibody demonstrates intense staining within mineralized tooth-associated matrix structures, consistent with expression of Collagen Type X Alpha 1a (COL10A1A). COL10A1A is a structural extracellular matrix protein that contributes to cartilage maturation, matrix organization, and skeletal development. The observed staining pattern within odontogenic and mineralized tissue compartments is consistent with the established role of type X collagen family members in formation and maintenance of specialized extracellular matrix environments associated with skeletal and craniofacial development. Heat-mediated antigen retrieval was performed in EDTA buffer. Tissue sections were stained with 2 ug/ml primary antibody and visualized using DAB chromogen.

Description

Zebrafish COL10A1 Antibody / Collagen Type X Alpha 1a Antibody is designed for the detection and study of COL10A1A, a collagen family protein that contributes to extracellular matrix organization during cartilage maturation and skeletal development. COL10A1A is the zebrafish ortholog of mammalian Collagen Type X Alpha 1 and belongs to a specialized group of extracellular matrix proteins that support tissue structure and developmental remodeling. Through its participation in matrix assembly and cartilage-associated pathways, COL10A1A contributes to formation and maintenance of developing skeletal tissues.

Collagen Type X Alpha 1a is a structural extracellular matrix protein associated with maturing cartilage and developmental processes that shape vertebrate skeletal architecture. Collagens provide mechanical support and organizational framework for tissues while also influencing cellular behavior through interactions with the extracellular environment. COL10A1A contributes to these functions by helping establish specialized matrix environments that support tissue growth, differentiation, and remodeling during development.

Zebrafish provide a valuable vertebrate model for investigating cartilage biology, extracellular matrix organization, and skeletal development. Expression of COL10A1A has been associated with developmental pathways involved in cartilage maturation, matrix organization, and formation of skeletal structures. Studies utilizing zebrafish models have helped improve understanding of how extracellular matrix proteins coordinate tissue development and structural integrity during embryogenesis and growth.

Beyond developmental biology, collagen family proteins remain important research targets in studies of connective tissue biology, extracellular matrix regulation, tissue remodeling, and regenerative processes. Because extracellular matrix composition influences both tissue mechanics and cellular signaling, COL10A1A continues to be investigated as part of broader efforts to understand vertebrate skeletal development and matrix-associated regulatory pathways.

Zebrafish COL10A1 Antibody is useful for investigating extracellular matrix biology, cartilage development, skeletal formation, and vertebrate developmental pathways. Researchers utilize COL10A1A expression studies to better understand molecular mechanisms governing matrix organization, tissue maturation, skeletal patterning, and developmental tissue remodeling.

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 COL10A1 Antibody / Collagen Type X Alpha 1a Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish COL10A1A recombinant protein (amino acids I544-H644) was used as the immunogen for the Zebrafish COL10A1 Antibody.

Storage

After reconstitution, the Zebrafish COL10A1 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 COL10A1A Antibody, Zebrafish Collagen Type X Alpha 1a Antibody, Zebrafish Type X Collagen Antibody, Zebrafish Extracellular Matrix Protein Antibody, Zebrafish Cartilage Matrix Protein Antibody, Zebrafish Skeletal Development Protein Antibody, Zebrafish Collagen Protein Antibody