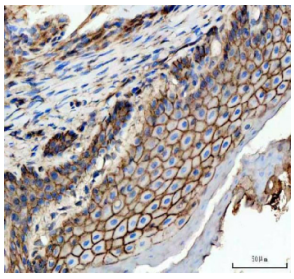
Zebrafish E-cadherin Antibody / Cdh1 / Cadherin 1 (RZ1220)

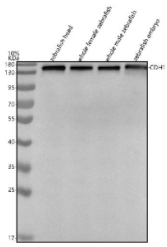
Catalog No.	Formulation	Size
RZ1220	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

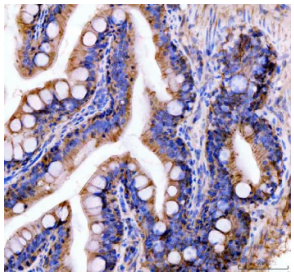
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q90Z37
Localization	Cell membrane, cytoplasm
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish E-cadherin antibody is available for research use only.



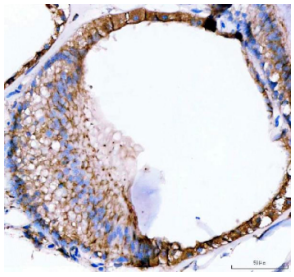
Zebrafish E-cadherin Antibody esophageal epithelium tissue IHC. Immunohistochemistry staining of FFPE zebrafish esophageal epithelium tissue with Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



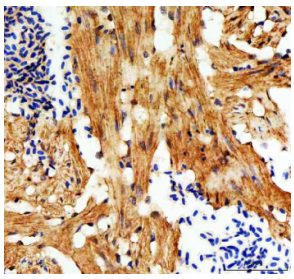
Zebrafish E-cadherin Antibody Tissue WB. Western blot analysis of E-cadherin/Cdh1 protein using Zebrafish E-cadherin antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~95 kDa but may be observed at higher molecular weights due to glycosylation.



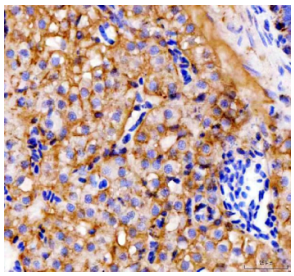
Zebrafish E-cadherin Antibody colon tissue IHC. Immunohistochemistry staining of FFPE zebrafish colon tissue with Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



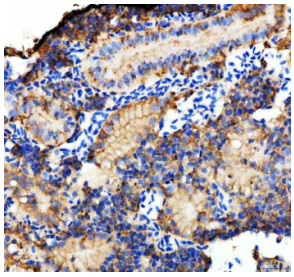
Zebrafish E-cadherin Antibody inner ear tissue IHC. Immunohistochemistry staining of FFPE zebrafish inner ear tissue with Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



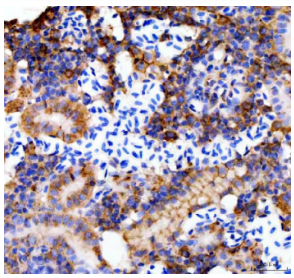
Zebrafish E-cadherin Antibody heart tissue IHC. Immunohistochemistry staining of FFPE zebrafish heart tissue with Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish E-cadherin Antibody Kidney Tissue IHC. Immunohistochemistry staining of E-cadherin protein in FFPE zebrafish kidney tissue using Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. Membranous staining is observed in epithelial cell populations, consistent with its role in cell-cell adhesion. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish E-cadherin Antibody Renal Tissue IHC. Immunohistochemistry analysis of E-cadherin expression in FFPE zebrafish kidney tissue using Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. Distinct membranous localization highlights epithelial structures within renal compartments. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish E-cadherin Antibody Kidney Section IHC. Immunohistochemistry staining of E-cadherin protein in FFPE zebrafish kidney tissue using Zebrafish E-cadherin antibody, HRP-labeled secondary and DAB substrate. Clear cell membrane staining is detected in tubular epithelial cells, while surrounding non-epithelial regions show minimal signal. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

The Zebrafish E-cadherin antibody targets E-cadherin (Cdh1), a calcium-dependent cell adhesion molecule essential for epithelial integrity, germ layer organization, and early morphogenesis in Danio rerio. Zebrafish, also known as Danio rerio, express cdh1 as one of the earliest adhesion genes required for blastoderm cohesion, epiboly movements, and epithelial sheet stability. E-cadherin is a transmembrane protein that localizes to adherens junctions, where its extracellular domains mediate homophilic adhesion while its intracellular tail interacts with catenins to anchor junctions to the cytoskeleton. These functions make E-cadherin a key regulator of tissue architecture throughout embryogenesis.

E-cadherin belongs to the classical cadherin family defined by repeated extracellular cadherin domains, a single-pass transmembrane region, and a cytoplasmic catenin-binding domain. In zebrafish embryos, cdh1 expression is detected during the earliest cleavage stages and continues through gastrulation and organogenesis. E-cadherin maintains epithelial sheet cohesion during epiboly, ensuring coordinated cell movements across the yolk cell. A Zebrafish E-cadherin antibody is suitable for research applications examining membrane localization, epithelial junction formation, and tissue organization during dynamic morphogenetic processes.

E-cadherin regulates cell sorting, lineage boundary formation, and signaling pathways influencing differentiation. Its adhesive function prevents premature epithelial-to-mesenchymal transitions and ensures proper germ layer separation. During gastrulation, modulation of E-cadherin adhesion strength contributes to cell intercalation, convergence and extension, and coordinated movement of epithelial layers. In later development, Cdh1 supports the architecture of skin, neural tube, gut epithelium, and organ primordia. Disruptions in e-cadherin expression impair germ layer movements, epithelial stability, and organ formation, demonstrating its essential contribution to vertebrate morphogenesis.

Structurally, zebrafish E-cadherin contains five extracellular cadherin repeats responsible for calcium-dependent adhesion, a single transmembrane helix, and a cytoplasmic tail that binds beta-catenin and p120-catenin. These interactions link adherens junctions to the actin cytoskeleton, allowing mechanical stabilization and mechanotransduction. Zebrafish cdh1 maps to chromosome 20, with regulatory elements ensuring strong expression during early cleavage and continuous epithelial differentiation. Co-localization studies frequently observe E-cadherin at cell-cell junctions in the blastoderm, neural plate, and organ-forming tissues, often overlapping with catenin markers that define adherens junction complexes.

A Zebrafish E-cadherin antibody is suitable for detecting Cdh1 in studies focused on epithelial morphogenesis, germ layer organization, junctional dynamics, and tissue boundary formation in Danio rerio. Its membrane-associated distribution provides insight into how epithelial cohesion supports developmental events such as epiboly, neurulation, and organ assembly. Because E-cadherin also modulates signaling systems including Wnt and Hippo pathways, its expression offers a window into interactions between adhesion, signal transduction, and cytoskeletal architecture. Researchers rely on E-cadherin to analyze defects in epithelial formation, morphogenetic movements, and mechanical stability across embryonic and larval development. These properties make the antibody valuable for studies in developmental biology, epithelial tissue engineering, and the coordination of adhesion with early embryonic patterning, and this reagent is supplied for research use by NSJ Bioreagents.

This antibody is part of the CDH1 antibody collection, where multiple E-cadherin antibody formats and applications are available for studying epithelial adhesion and cancer progression.

Application Notes

Optimal dilution of the Zebrafish E-cadherin antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish E-cadherin recombinant protein (amino acids Y23-D864) was used as the immunogen for the Zebrafish E-cadherin antibody.

Storage

After reconstitution, the Zebrafish E-cadherin 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 Cdh1 Antibody, Zebrafish Cadherin 1 Antibody

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