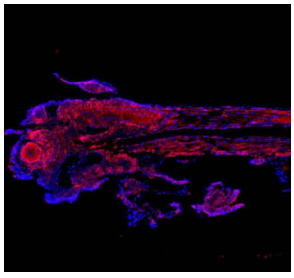
Zebrafish Cct4 Antibody / TCP1 delta (RZ1170)

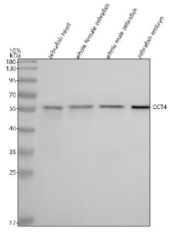
Catalog No.	Formulation	Size
RZ1170	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

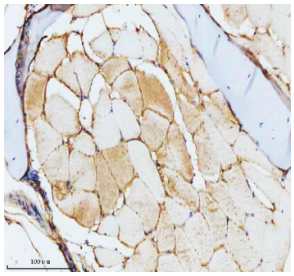
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6PH46
Localization	Cytoplasm
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5 ug/ml Immunofluorescence : 5 ug/ml
Limitations	This Zebrafish Cct4 antibody is available for research use only.



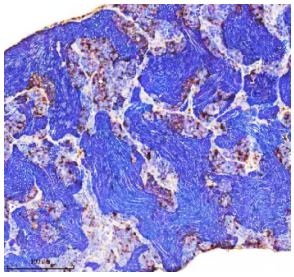
Zebrafish Cct4 Antibody Embryo Tissue IF. Immunofluorescent staining of FFPE zebrafish embryo tissue with Zebrafish Cct4 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH8 EDTA buffer for 20 min.



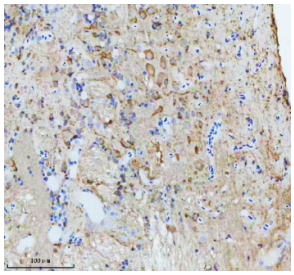
Zebrafish Cct4 Antibody Tissue WB. Western blot analysis of Cct4 protein using Zebrafish Cct4 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~57 kDa.



Zebrafish Cct4 Antibody Skeletal Muscle IHC. Immunohistochemistry staining of FFPE zebrafish skeletal muscle tissue with Zebrafish Cct4 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cct4 Antibody Testis IHC. Immunohistochemistry staining of FFPE zebrafish testis tissue with Zebrafish Cct4 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cct4 Antibody Brain IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue with Zebrafish Cct4 antibody, HRP secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Cct4 antibody detects Cct4, a core subunit of the cytosolic chaperonin-containing TCP1 complex (CCT), also known as the TRiC complex. Encoded by the cct4 gene, TCP1 delta is one of eight paralogous CCT subunits that together form a double-ring ATP-dependent chaperonin essential for folding a broad array of cytosolic proteins. The CCT complex is especially important for actin and tubulin folding, but it also assists in the maturation of many regulatory proteins involved in cell cycle control, cytoskeletal organization, and signaling. Because protein folding is fundamental to growth and tissue formation, Zebrafish Cct4 antibody reagents support research in proteostasis, cytoskeletal biology, and vertebrate developmental mechanisms.

Cct4 participates directly in the formation and functional activity of the CCT complex. Each ring of the chaperonin contains eight distinct subunits, including Cct4, arranged in a specific order that contributes to substrate recognition and conformational cycling. ATP binding and hydrolysis drive structural changes that encapsulate unfolded proteins within the central cavity, allowing them to fold in a controlled environment. In zebrafish embryos, cct4 is expressed in proliferative and differentiating tissues such as the developing brain, musculature, somites, and endodermal organs. These regions rely on efficient folding of structural proteins and signaling factors to support cell division, migration, and tissue morphogenesis.

Actin and tubulin represent major CCT substrates. Proper folding of these cytoskeletal components is crucial for neuronal outgrowth, muscle fiber development, intracellular transport, and mitotic spindle assembly. Disruption of CCT subunits, including Cct4, leads to defects in cytoskeleton integrity, altered neuronal morphology, and impaired cell division. In zebrafish, these phenotypes can manifest as developmental delay, organ malformation, or disrupted axis formation, underscoring the essential role of Cct4-mediated folding in embryogenesis.

Cct4 also contributes to the folding of regulatory proteins such as cell cycle factors, signaling kinases, transcription regulators, and metabolic enzymes. Many of these substrates have complex multidomain structures that require the unique folding environment provided by the CCT complex. By supporting the maturation of these proteins, Cct4 influences pathways that regulate proliferation, differentiation, and tissue patterning. Zebrafish, with its rapid development and high biosynthetic demands, depend heavily on CCT activity to maintain proteome integrity.

At the molecular level, TCP1 delta contains conserved chaperonin domains involved in ATP binding, substrate engagement, and inter-subunit communication. The coordinated activity of all eight subunits enables precise control over folding cycles. Subcellular localization of Cct4 is primarily cytosolic, consistent with the distribution of its substrates and the location of the CCT complex as a major cytosolic protein-folding system.

The CCT complex also plays roles in stress responses by preventing aggregation of unfolded or misfolded proteins during heat shock, oxidative stress, or metabolic challenge. In zebrafish, these protective functions support survival during environmental fluctuations and developmental transitions when proteome instability may increase. Because Cct4 contributes to both basal and stress-induced folding capacity, it is a key factor in maintaining cellular homeostasis.

A Zebrafish Cct4 antibody is suitable for research applications such as western blotting, immunohistochemistry, and assays examining cytoskeletal assembly, chaperonin activity, proteostasis, and developmental protein folding. This antibody targets TCP1 delta for studies involving protein maturation, cellular organization, and vertebrate developmental physiology. NSJ Bioreagents provides the Zebrafish Cct4 antibody to support research in chaperonin biology and cytoskeletal regulation.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Zebrafish Cct4 antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Cct4 recombinant protein (amino acids R446-R533) was used as the immunogen for the Zebrafish Cct4 antibody.

Storage

After reconstitution, the Zebrafish Cct4 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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