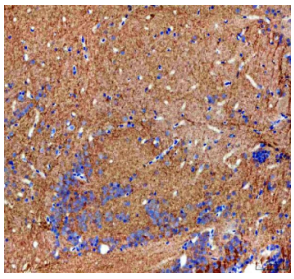
Zebrafish Cope Antibody / Coatomer subunit epsilon (RZ1013)

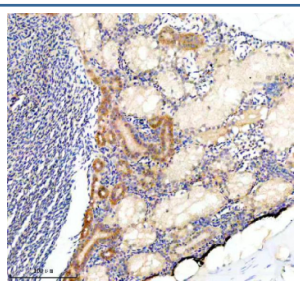
Catalog No.	Formulation	Size
RZ1013	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

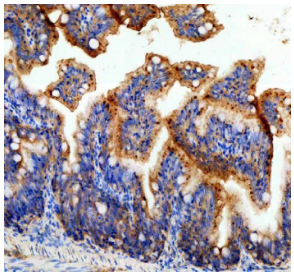
Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q5U3E8
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 2-5 ug/ml
Limitations	This Zebrafish Cope antibody is available for research use only.



Zebrafish Cope Antibody Brain IHC. Immunohistochemical analysis of Cope protein using Zebrafish Cope antibody and paraffin-embedded zebrafish brain tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cope Antibody Kidney IHC. Immunohistochemical analysis of Cope protein using Zebrafish Cope antibody and paraffin-embedded zebrafish kidney tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Zebrafish Cope Antibody Colon IHC. Immunohistochemical analysis of Cope protein using Zebrafish Cope antibody and paraffin-embedded zebrafish colon tissue. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

Zebrafish (Danio rerio) Cope antibody recognizes Coatomer subunit epsilon, a conserved component of the COPI vesicle coat complex that regulates retrograde trafficking between the Golgi apparatus and endoplasmic reticulum in Danio rerio. Cope is encoded by the zebrafish cope gene located on chromosome 21 and is part of the seven-subunit coatomer complex required for sorting and transport of membrane proteins and lipids. Coatomer subunit epsilon contributes to coatomer stability, cargo selection, vesicle budding, and maintenance of Golgi architecture. In zebrafish embryos, Cope is expressed in tissues with high secretory and biosynthetic demand, including the developing neural tube, notochord, somites, gut primordia, and craniofacial mesenchyme. Subcellular localization studies show Cope associated with Golgi membranes, pre-Golgi intermediates, and regions enriched in vesicle trafficking machinery.

Coatomer subunit epsilon participates directly in retrograde transport by interacting with other COPI components such as COPA, COPB, COPG, and ARF family GTPases. These interactions stabilize vesicle formation and allow selective retrieval of ER-resident proteins, recycled receptors, and cargo processing enzymes. In zebrafish, efficient COPI trafficking is required for proper protein sorting, glycosylation, and lipid distribution during early morphogenesis. Disruption of Cope function impairs Golgi integrity, leading to defects in membrane organization, altered secretion, and broader disruptions in cellular homeostasis. Because developing zebrafish tissues rely on continuous membrane remodeling, Cope mediated transport is essential for shaping early organ systems.

Developmentally, cope expression increases during somitogenesis and early organ formation, reflecting its importance in rapidly growing tissues where protein synthesis and trafficking are highly active. Studies in vertebrate models show that defects in COPI components can cause abnormal epithelial polarity, impaired cell adhesion, disrupted lumen formation, and aberrant neural development. In zebrafish, reduced Cope function is associated with morphological defects including disrupted notochord structure, abnormal brain ventricle formation, and impaired craniofacial patterning. These phenotypes highlight the essential role of Cope in vesicle trafficking pathways that support tissue organization and secretory function.

Coatomer dependent pathways also intersect with signaling cascades that rely on proper processing and secretion of ligands and receptors. In developing zebrafish, Cope contributes to the trafficking of components involved in Hedgehog, Wnt, and Notch signaling pathways. Altered COPI transport can affect gradient formation or receptor turnover, influencing developmental patterning outcomes. In addition, Cope supports lipid homeostasis and Golgi membrane composition, processes critical for vesicle dynamics and organelle stability. Isoform variation may arise through alternative regulatory elements or tissue specific transcription, potentially affecting localization or trafficking efficiency.

This Zebrafish Cope antibody is suitable for detecting Coatomer subunit epsilon in research focused on vesicle trafficking, Golgi function, embryonic development, membrane dynamics, and secretory pathway biology in zebrafish. It supports investigations into COPI mediated retrograde transport, organelle organization, epithelial morphogenesis, and developmental phenotypes that arise from disrupted trafficking. NSJ Bioreagents offers this reagent as part of its zebrafish and cellular transport antibody portfolio.

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

Application Notes

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

Immunogen

An E.coli-derived zebrafish Cope recombinant protein (amino acids E72-A300) was used as the immunogen for the Zebrafish Cope antibody.

Storage

After reconstitution, the Zebrafish Cope antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.