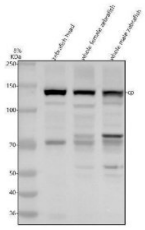
Zebrafish Ceruloplasmin Antibody / CP (RZ1387)

Catalog No.	Formulation	Size
RZ1387	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	Q7ZU12
Applications	Western blot: 0.5-1ug/ml
Limitations	This Zebrafish Ceruloplasmin / CP Antibody is available for research use only.



Zebrafish Ceruloplasmin Antibody WB. Western blot analysis of zebrafish head tissue lysate (lane 1), whole female zebrafish tissue lysate (lane 2), and whole male zebrafish tissue lysate (lane 3) using Zebrafish Ceruloplasmin Antibody / CP Antibody demonstrates a prominent band at approximately 145 kDa. Ceruloplasmin (CP) is a copper-binding ferroxidase that plays a central role in iron metabolism, copper transport, and maintenance of metal ion homeostasis. By catalyzing the oxidation of ferrous iron to ferric iron, Ceruloplasmin facilitates iron transport and utilization while contributing to systemic mineral balance and cellular metabolic function. Detection of Ceruloplasmin in multiple zebrafish tissue preparations is consistent with its established role in vertebrate iron and copper metabolism. Electrophoresis was performed on an 8% SDS-PAGE gel under reducing conditions with 30 Âµg of protein loaded per lane, followed by nitrocellulose transfer and HRP-ECL detection. A prominent band is detected at approximately 145 kDa, slightly above the predicted molecular weight of approximately 125 kDa, which may reflect glycosylation and other post-translational modifications known to influence Ceruloplasmin migration.

Description

Zebrafish Ceruloplasmin Antibody / CP Antibody is useful for studying Ceruloplasmin (CP), a multicopper ferroxidase that plays a central role in copper transport, iron metabolism, and maintenance of metal ion homeostasis. Ceruloplasmin is

one of the major copper-binding proteins in vertebrates and functions by oxidizing ferrous iron (Fe2+) to ferric iron (Fe3+), facilitating iron transport and utilization throughout the body. Through these activities, CP contributes to the regulation of essential mineral metabolism and maintenance of normal physiologic function.

Ceruloplasmin serves as an important mediator between copper and iron homeostasis. By supporting the conversion of iron into forms suitable for transport by transferrin and other iron-handling proteins, CP helps regulate iron distribution, cellular iron availability, and systemic mineral balance. These functions make Ceruloplasmin a critical component of pathways that govern nutrient utilization, cellular metabolism, and tissue maintenance.

In zebrafish, Ceruloplasmin contributes to developmental and physiologic processes that depend on tightly regulated metal ion homeostasis. Proper management of copper and iron is required during embryogenesis, organ development, hematopoiesis, and normal cellular function. Analysis of CP expression can therefore provide insight into mechanisms controlling mineral metabolism, oxidative balance, and vertebrate development.

Zebrafish has become a valuable model for studying iron and copper metabolism because many pathways involved in metal transport and homeostasis are highly conserved among vertebrates. The transparency of developing embryos and accessibility of genetic manipulation allow investigators to directly examine processes that influence nutrient handling, developmental progression, and tissue physiology. Ceruloplasmin is therefore frequently investigated in studies involving metal metabolism, hematologic development, liver biology, and oxidative stress responses.

Beyond its role in iron transport, Ceruloplasmin participates in broader physiologic networks associated with antioxidant defense and maintenance of cellular homeostasis. Because iron and copper metabolism influence numerous biologic processes, proteins involved in regulating these pathways remain important targets in developmental biology, metabolism research, and disease-focused investigations. CP is commonly studied in relation to mineral balance, oxidative stress regulation, and systemic metabolic function.

Zebrafish Ceruloplasmin antibodies are commonly used in immunohistochemistry, immunofluorescence, western blotting, and related protein detection applications to evaluate CP expression and localization. These reagents support investigations of copper transport, iron metabolism, ferroxidase activity, metal ion homeostasis, hematopoiesis, developmental biology, and oxidative stress mechanisms in zebrafish research models.

Learn more about Ceruloplasmin function in iron metabolism, copper transport, ferroxidase activity, and metal ion homeostasis on our Ceruloplasmin 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 Ceruloplasmin Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish Ceruloplasmin/CP recombinant protein (amino acids R23-E929) was used as the immunogen for the Zebrafish Ceruloplasmin Antibody.

Storage

After reconstitution, the Zebrafish Ceruloplasmin / CP 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 CP Antibody, Zebrafish Copper Transport Protein Antibody, Zebrafish Ferroxidase Antibody, Zebrafish Iron Metabolism Protein Antibody, Zebrafish Plasma Copper Binding Protein Antibody, Zebrafish Metal Homeostasis Protein

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