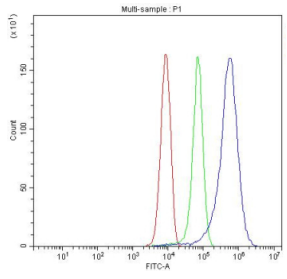
Ceruloplasmin Antibody / Iron Metabolism Protein Antibody (R31856)

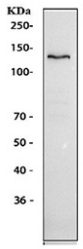
Catalog No.	Formulation	Size
R31856	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P00450
Localization	Cytoplasmic
Applications	Western blot: 0.5-1ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This Ceruloplasmin Antibody / Iron Metabolism Protein Antibody is available for research use only.



Ceruloplasmin Antibody HepG2 Cell FACS. Flow cytometric analysis of fixed human HepG2 cells using Ceruloplasmin Antibody / Iron Metabolism Protein Antibody demonstrates a pronounced rightward shift of the Ceruloplasmin-positive population (blue) relative to both the isotype control (green) and unstained cells (red), consistent with expression of Ceruloplasmin (CP). Ceruloplasmin is a multicopper 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 regulation. The observed fluorescence shift supports the utility of this antibody for flow cytometric detection of Ceruloplasmin expression. Red=cells alone; Green=isotype control; Blue=Ceruloplasmin antibody.



Ceruloplasmin Antibody HepG2 Western Blot. Western blot analysis of human HepG2 cell lysate using Ceruloplasmin Antibody / Iron Metabolism Protein Antibody demonstrates a distinct band at approximately 130-140 kDa, consistent with expression of Ceruloplasmin (CP). Ceruloplasmin is a multicopper 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 regulation. The observed molecular weight is consistent with the heavily glycosylated nature of Ceruloplasmin, which commonly migrates above its predicted molecular weight of approximately 122 kDa during SDS-PAGE analysis.

Description

Ceruloplasmin antibody is useful for studying Ceruloplasmin (CP), a multicopper ferroxidase that plays a central role in iron metabolism, copper transport, and maintenance of metal ion homeostasis. Ceruloplasmin is one of the major copper-binding proteins in vertebrates and functions by oxidizing ferrous iron (FeÂ²Ã¢Â•Âº) to ferric iron (FeÂ³Ã¢Â•Âº), facilitating iron transport and utilization throughout the body. Through these activities, CP contributes to the regulation of mineral metabolism, cellular homeostasis, and normal physiologic function.

Ceruloplasmin serves as a critical mediator between copper and iron metabolism. By supporting the conversion of iron into forms suitable for transport by transferrin and other iron-handling proteins, CP helps regulate systemic iron distribution, cellular iron availability, and tissue iron balance. Because proper iron handling is essential for oxygen transport, energy metabolism, and cellular growth, Ceruloplasmin occupies an important position within pathways that maintain physiologic homeostasis.

As an iron metabolism protein, Ceruloplasmin contributes to biologic processes involving nutrient utilization, hematopoiesis, oxidative balance, and tissue maintenance. The protein is highly expressed in the liver and circulates in plasma, where it functions as both a copper carrier and ferroxidase enzyme. Through these activities, CP helps coordinate the movement and utilization of essential trace metals while limiting the accumulation of potentially harmful reactive iron species.

Ceruloplasmin has become an important target in studies of metabolism, hematology, liver biology, oxidative stress, and metal homeostasis. Because iron and copper metabolism influence numerous physiologic systems, proteins that regulate these pathways remain important subjects of biomedical investigation. Analysis of Ceruloplasmin expression can provide insight into mechanisms controlling mineral transport, cellular metabolism, and systemic homeostatic regulation.

Beyond its role in iron transport, Ceruloplasmin participates in broader physiologic networks associated with antioxidant defense and protection against oxidative damage. The ferroxidase activity of CP contributes to maintenance of redox balance and supports normal cellular function in a variety of tissues. These characteristics make Ceruloplasmin a valuable research target in studies of metabolism, inflammation, developmental biology, and tissue physiology.

Ceruloplasmin antibodies are commonly used in immunohistochemistry, western blotting, immunofluorescence, flow cytometry, and related protein detection applications. These reagents support investigations of iron metabolism, copper transport, ferroxidase activity, metal ion homeostasis, hematopoiesis, liver function, oxidative stress responses, and systemic metabolic regulation.

Researchers studying iron metabolism, copper transport, metal ion homeostasis, and systemic metabolic regulation may also be interested in our broader Metabolism Antibody collection.

Application Notes

Optimal dilution of the Ceruloplasmin Antibody / Iron Metabolism Protein Antibody should be determined by the researcher.

Immunogen

Amino acids 20-259 of human Ceruloplasmin were used as the immunogen for the Ceruloplasmin antibody.

Storage

After reconstitution, the Ceruloplasmin 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

CP Antibody, Copper Transport Protein Antibody, Ferroxidase Antibody, Iron Metabolism Protein Antibody, Metal Homeostasis Protein Antibody, Plasma Copper Binding Protein Antibody

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