SANTA CRUZ BIOTECHNOLOGY, INC.

ceruloplasmin (N-20): sc-21240

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ceruloplasmin (CP) is a blue plasma glycoprotein that is synthesized in hepatocytes and transports copper throughout the body. Also known as ferroxidase, ceruloplasmin is the product of an intragenic triplication and is composed of three homologous domains. Two splice variants, CP-1 and CP-2, have differential expression in specific tissues. Ceruloplasmin mRNAs are expressed in human liver, macrophages and lymphocytes. Ceruloplasmin binds copper and has six or seven cupric ions per molecule. It is involved in peroxidation of Fe(II) transferrin to form Fe(III) transferrin. Ceruloplasmin is proteolytically degraded to a short form, which still possesses ferroxidase activity. However, only the intact long form is able to catalyze iron loading into ferritin, indicating that the structural integrity of ceruloplasmin is essential for the enzyme to effectively catalyze iron loading into ferritin. Ceruloplasmin also induces low density lipoprotein oxidation *in vitro,* an action that depends on the presence of a single, chelatable cu atom. A glycosyl phosphatidylinositol (GPI)-anchored form of ceruloplasmin is expressed by Sertoli cells, which may be the dominant form in Sertoli cells.

REFERENCES

1. Takahashi, N., et al. 1984. Single-chain structure of human ceruloplasmin: the complete amino acid sequence of the whole molecule. Proc. Natl. Acad. Sci. USA 81: 390-394.
2. Yang, F., et al. 1986. Characterization, mapping, and expression of the human ceruloplasmin gene. Proc. Natl. Acad. Sci. USA 83: 3257-3261.
3. Royle, N.J., et al. 1987. Human genes encoding prothrombin and ceruloplasmin map to 11p11-q12 and 3q21-24, respectively. Somat. Cell Mol. Genet. 13: 285-292.
4. Yang, F.M., et al. 1990. Human ceruloplasmin. Tissue-specific expression of transcripts produced by alternative splicing. J. Biol. Chem. 265: 10780-10785.

CHROMOSOMAL LOCATION

Genetic locus: CP (human) mapping to 3q24; Cp (mouse) mapping to 3 A2.

SOURCE

ceruloplasmin (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ceruloplasmin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21240 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ceruloplasmin (N-20) is recommended for detection of ceruloplasmin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ceruloplasmin (N-20) is also recommended for detection of ceruloplasmin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ceruloplasmin siRNA (h): sc-41194, ceruloplasmin siRNA (m): sc-41195, ceruloplasmin shRNA Plasmid (h): sc-41194-SH, ceruloplasmin shRNA Plasmid (m): sc-41195-SH, ceruloplasmin shRNA (h) Lentiviral Particles: sc-41194-V and ceruloplasmin shRNA (m) Lentiviral Particles: sc-41195-V.

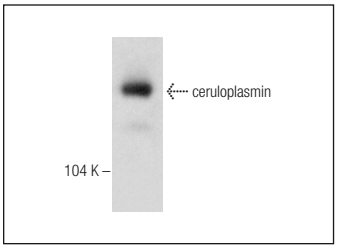
Molecular Weight of ceruloplasmin: 132 kDa.

Positive Controls: human plasma extract: sc-364374, rat testis extract: sc-2400 or SK-BR-3 cell lysate: sc-2218.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ceruloplasmin (N-20): sc-21240. Western blot analysis of ceruloplasmin in human plasma.

RESEARCH USE

For research use only, not for use in diagnostic procedures.