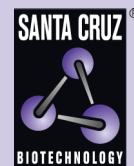


# CCS (H-7): sc-55561



The Power to Question

## BACKGROUND

Cu-Zn superoxide dismutase-1 (SOD-1) is a well characterized cytosolic scavenger of oxygen free radicals that requires copper and zinc binding to potentiate its enzymatic activity. Copper chaperone for SOD-1 (CCS) is essential for the incorporation of copper into SOD-1, and therefore is necessary for its enzymatic activity. CCS prevents copper ions from binding to intracellular copper scavengers and provides the SOD-1 enzyme with the necessary copper cofactor. CCS escorts copper only to SOD-1 and fails to deliver copper to proteins in the mitochondria, nucleus or secretory pathway. CCS interacts with both wildtype and mutated forms of SOD-1 through CCS domains that are homologous in SOD-1. CCS exists as a homodimer that may form a heterodimer with SOD-1 during copper loading. While many tissues express CCS, the chaperone is most abundant in the kidney, liver and Purkinje cells in the neuropil of the central nervous system.

## CHROMOSOMAL LOCATION

Genetic locus: CCS (human) mapping to 11q13.2; Ccs (mouse) mapping to 19 A.

## SOURCE

CCS (H-7) is a mouse monoclonal antibody raised against amino acids 1-274 representing full length CCS of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CCS (H-7) is available conjugated to agarose (sc-55561 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55561 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55561 PE), fluorescein (sc-55561 FITC), Alexa Fluor® 488 (sc-55561 AF488), Alexa Fluor® 546 (sc-55561 AF546), Alexa Fluor® 594 (sc-55561 AF594) or Alexa Fluor® 647 (sc-55561 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55561 AF680) or Alexa Fluor® 790 (sc-55561 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CCS (H-7) is recommended for detection of CCS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CCS siRNA (h): sc-29956, CCS siRNA (m): sc-29957, CCS shRNA Plasmid (h): sc-29956-SH, CCS shRNA Plasmid (m): sc-29957-SH, CCS shRNA (h) Lentiviral Particles: sc-29956-V and CCS shRNA (m) Lentiviral Particles: sc-29957-V.

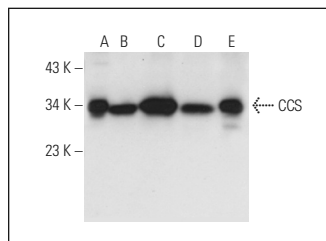
Molecular Weight of CCS: 35 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or HeLa whole cell lysate: sc-2200.

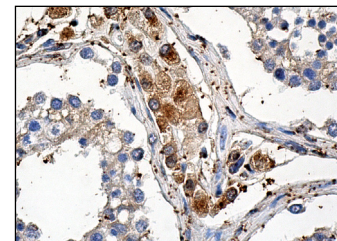
## STORAGE

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

## DATA



CCS (H-7): sc-55561. Western blot analysis of CCS expression in HeLa (A), c4 (B) and 3611-RF (C) whole cell lysates and mouse brain (D) and rat brain (E) tissue extracts.



CCS (H-7): sc-55561. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of Leydig cells.

## SELECT PRODUCT CITATIONS

- Bertinato, J., et al. 2010. Decreased erythrocyte CCS content is a biomarker of copper overload in rats. *Int. J. Mol. Sci.* 11: 2624-2635.
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- Tasic, D., et al. 2022. Effects of fructose and stress on rat renal copper metabolism and antioxidant enzymes function. *Int. J. Mol. Sci.* 23: 9023.
- Abdelsaid, K., et al. 2022. Exercise improves angiogenic function of circulating exosomes in type 2 diabetes: role of exosomal SOD3. *FASEB J.* 36: e22177.

## RESEARCH USE

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

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