



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# CCS (m): 293T Lysate: sc-119087

## 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.

## REFERENCES

- Levanon, D., et al. 1985. Architecture and anatomy of the chromosomal locus in human chromosome 21 encoding the Cu-Zn superoxide dismutase. *EMBO J.* 4: 77-84.
- Bewley, G.C. 1988. cDNA and deduced amino acid sequence of murine Cu-Zn superoxide dismutase. *Nucleic Acids Res.* 16: 2728.
- Culotta, V.C., et al. 1997. The copper chaperone for superoxide dismutase. *J. Biol. Chem.* 272: 23469-23472.
- Casareno, R.L., et al. 1998. The copper chaperone CSS directly interacts with Cu-Zn superoxide dismutase. *J. Biol. Chem.* 272: 23625-23628.
- Rothstein, J.D., et al. 1999. The copper chaperone CCS is abundant in neurons and astrocytes in human and rodent brain. *J. Neurochem.* 72: 422-429.
- Rae, T.D., et al. 1999. Undetectable intracellular free copper: the requirement of a copper chaperone for superoxide dismutase. *Science* 284: 805-808.
- Wong, P.C., et al. 2000. Copper chaperone for superoxide dismutase is essential to activate mammalian Cu-Zn superoxide dismutase. *Proc. Natl. Acad. Sci. USA* 97: 2886-2891.
- Rae, T.D., et al. 2000. Mechanism of Cu-Zn superoxide dismutase by the human metallochaperone CCS. *J. Biol. Chem.* 276: 5166-5176.
- Lamb, A.L., et al. 2000. Heterodimer formation between superoxide dismutase and its copper chaperone. *Biochemistry* 39: 14730-14737.

## CHROMOSOMAL LOCATION

Genetic locus: *Ccs* (mouse) mapping to 19 A.

## PRODUCT

CCS (m): 293T Lysate represents a lysate of mouse CCS transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## RESEARCH USE

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

## APPLICATIONS

CCS (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CCS antibodies. Recommended use: 10-20 µl per lane.

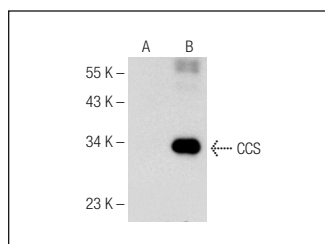
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CCS (D-7): sc-374205 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CCS expression in CCS transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

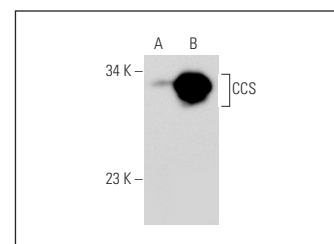
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



CCS (D-7): sc-374205. Western blot analysis of CCS expression in non-transfected: sc-117752 (A) and mouse CCS transfected: sc-119087 (B) 293T whole cell lysates.



CCS (H-7): sc-55561. Western blot analysis of CCS expression in non-transfected: sc-117752 (A) and mouse CCS transfected: sc-119087 (B) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.