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Diagnostik & molekulare Diagnostik



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### Zuschläge

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- Gefahrgutzuschlag
- Expressversand

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# SOD-1 (m2): 293T Lysate: sc-123711

## 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. Enzymatically, SOD-1 facilitates the dismutation of oxygen radicals to hydrogen peroxide and also catalyzes pro-oxidant reactions, which include the peroxidase activity and hydroxyl radical generating activity. SOD-1 is ubiquitously expressed in somatic cells and functions as a homodimer. Defects in the gene encoding SOD-1 have been implicated in the progression of neurological diseases, including amyotrophic lateral sclerosis (ALS), a neurodegenerative disease characterized by the loss of spinal motor neurons, Down syndrome and Alzheimer's disease. In familial ALS, several mutations in SOD-1 predominate, resulting in the loss of zinc binding, the loss of scavenging activity of SOD-1, and correlate with an increase in neurotoxicity and motor neuron death.

## 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.
- Beckman, J.S., et al. 1993. ALS, SOD and peroxynitrite. *Nature* 364: 584.
- Orrell, R., et al. 1995. A novel SOD mutant and ALS. *Nature* 374: 504-505.
- Singh, R.J., et al. 1998. Reexamination of the mechanism of hydroxyl radical adducts formed from the reaction between familial amyotrophic lateral sclerosis-associated Cu-Zn superoxide dismutase mutants and H<sub>2</sub>O<sub>2</sub>. *Proc. Natl. Acad. Sci. USA* 95: 6675-6680.
- Shaw, C.E., et al. 1998. Mutations in all five exons of SOD-1 may cause ALS. *Ann. Neurol.* 43: 390-394.
- Brujin, L.I., et al. 1998. Aggregation and motor neuron toxicity of an ALS-linked SOD-1 mutant independent from wild-type SOD-1. *Science* 281: 1851-1854.

## CHROMOSOMAL LOCATION

Genetic locus: Sod1 (mouse) mapping to 16 C3.3.

## PRODUCT

SOD-1 (m2): 293T Lysate represents a lysate of mouse SOD-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

SOD-1 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SOD-1 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.

SOD-1 (C-8): sc-515404 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse SOD-1 expression in SOD-1 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



SOD-1 (C-8): sc-515404. Western blot analysis of SOD-1 expression in non-transfected: sc-117752 (A) and mouse SOD-1 transfected: sc-123711 (B) 293T whole cell lysates.

SOD-1 (B-1): sc-271014. Western blot analysis of SOD-1 expression in non-transfected: sc-117752 (A) and mouse SOD-1 transfected: sc-123711 (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.

## RESEARCH USE

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

## PROTOCOLS

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