

Superoxide Dismutase

Human, Recombinant (rHuSOD)

Expressed in *E. coli*

Cat. No. CRP08118

Lot. No. (See product label)

PRODUCT INFORMATION

Description: Human Cu/Zn Superoxide Dismutase (SOD) catalyzes the reaction between superoxide anions and hydrogen to yield molecular oxygen and hydrogen peroxide. The enzyme protects the cell against dangerous levels of superoxide.

Amino-Acid Sequence: 2 x 154 aa. homodimer, non-glycosylated

M. W.: approximately 31 kDa

Synonyms: EC-SOD; MGC20077; Cu-Znprecursor; EC 1.15.1.1; Extracellular superoxide dismutase; superoxide dismutase 3, extracellular

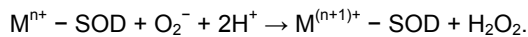
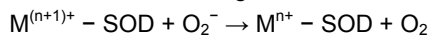
Recombinant: Expressed in *E. coli*

Purity: >95% by SDS-PAGE and HPLC analyses.

Formulation: Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.

Specific Activity: Fully biologically active when compared to standard. The potency per mg was tested by Pyrogallol Acid method and was found to be more than 10,000Units/mg.

Reaction: The SOD-catalysed dismutation of superoxide may be written with the following half-reactions :



where M = Cu (n=1) ; Mn (n=2) ; Fe (n=2) ; Ni (n=2).

In this reaction the oxidation state of the metal cation oscillates between n and n+1.

Endotoxin: Less than 1EU/µg of rHuSOD as determined by LAL method.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at <-20°C. Further dilutions should be made in appropriate buffered solutions.

Storage: This lyophilized preparation is stable for several weeks at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

FOR RESEARCH USE ONLY



PDB rendering based on 1ba9. Available structures: [1azv](#), [1ba9](#), [1dsw](#), [1fun](#), [1hl4](#), [1hl5](#), [1kmg](#), [1l3n](#), [1mfm](#), [1n18](#), [1n19](#), [1oez](#), [1ozt](#), [1ozu](#)

GENE INFORMATION

Gene Name: [SOD3](#)

mRNA Refseq: [NM_003102.2](#)

Protein Refseq: [NP_003093.2](#)

MIM: [185490](#)

UniProt ID: [P08294](#)

Enzyme Commission Number: EC [1.15.1.1](#)

GeneID: [6649](#)

Chromosome Location: 4p15.3-p15.1

Pathway: Amyotrophic lateral sclerosis (ALS); Neurodegenerative Disorders; Hemostasis

Function: antioxidant activity;chaperone binding;copper ion binding;metal ion binding;oxidoreductase activity; protein homodimerization activity; protein phosphatase 2B binding; superoxide dismutase activity.

REFERENCES

- 1.de Bellerocche J, Orrell R, King A (1996). Familial amyotrophic lateral sclerosis/motor neurone disease (FALS): a review of current developments. *J. Med. Genet.* 32 (11): 841-7.
- 2.Ceroni M, Curti D, Alimonti D (2002). Amyotrophic lateral sclerosis and SOD1 gene: an overview. *Funct. Neurol.* 16 (4 Suppl): 171-80.
- 3.Zelko IN, Mariani TJ, Folz RJ (2003). Superoxide dismutase multigene family: a comparison of the CuZn-SOD (SOD1), Mn-SOD (SOD2), and EC-SOD (SOD3) gene structures, evolution, and expression. *Free Radic. Biol. Med.* 33 (3): 337-49.

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