

Cu/Zn SOD^{His} Cu/Zn Superoxide Dismutase human, recombinant, *E. coli*

Cat. No.	Amount
PR-150	500 µg

For *in vitro* use only

Quality guaranteed for 12 months

Store at -80°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 50 mM sodium citrate buffer pH 5.5, 1 mM DTT, 200 µM ZnSO₄, and 200 µM CuSO₄.

Activity

> 2.000 units/mg (One unit is defined as the amount of enzyme that will double the rate of autoxidation of 5,6,6a,11b-tetrahydro - 3,9,10-trihydroxybenzo-[c]-fluorene per minute at 37 °C, pH 8.8).

Purity

>90% by SDS-PAGE

Description

Cu/Zn Superoxide Dismutase (Cu/Zn SOD) catalyzes the dismutation of superoxide radicals to molecular oxygen. It has been implicated in cellular aging due to its reduced activity in aging cells.

Cu/Zn SOD plays a protective role in the pathogenesis of selective neuronal injury after brief ischemia and reduces the degree of necrotic and DNA fragmented neuronal death following global ischemia. Mutant forms of Cu/Zn SOD have been linked to neurodegenerative diseases such as amyotrophic lateral sclerosis.

Selected References:

- Nebot *et al.* (1993) Spectrophotometric assay of superoxide dismutase activity based on the activated autoxidation of tetracyclic catechol. *Anal. Biochem.* **214**:442.
- Deng *et al.* (1993) Amyotrophic lateral sclerosis and structural defects in Cu,Zn superoxide dismutase. *Science* **261**:986.
- Gurney *et al.* (1994) Motor neuron degeneration in mice that express a human Cu,Zn superoxide dismutase mutation. *Science* **264**:1772.
- Greenlund *et al.* (1995) Superoxide dismutase delays neuronal apoptosis: a role for reactive oxygen species in programmed neuronal death. *Neuron* **14**:303.
- Stasser *et al.* (2005) Cysteine-to-Serine Mutants of the Human Copper Chaperone for Superoxide Dismutase Reveal a Copper Cluster at a Domain III Dimer Interface. *Biochemistry* **44**:3143.