

Mn SOD^{His}

Manganese Superoxide Dismutase

human, recombinant, *E. coli*

Cat. No.	Amount
PR-149	500 µg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -80°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 10 mM potassium phosphate buffer pH 7.5, 40 mM NaCl, 1 mM MnCl₂, and 0.1 mM DTT.

Activity

> 1.000 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

Manganese Superoxide Dismutase (Mn SOD) is a antioxidant enzyme that catalyzes the dismutation of superoxide radicals to molecular oxygen in the mitochondria of eukaryotic cells.

It plays a critical role in the detoxification of mitochondrial reactive oxygen species (ROS) constituting a major cellular defense mechanism against agents that induce oxidative stress. The increased expression of MnSOD suppresses the tumorigenicity of human melanoma cells, breast and prostate cancer cells, and glioma cells, suggesting that MnSOD is a tumor suppressor gene in a wide variety of cancers.

Selected References:

- Venkataraman *et al.* (2005) Manganese superoxide dismutase overexpression inhibits the growth of androgen-independent prostate cancer cells. *Oncogene* **24**:77.
- Greenlund *et al.* (1995) Superoxide dismutase delays neuronal apoptosis: a role for reactive oxygen species in programmed neuronal death. *Neuron* **14**:303.
- Navarro-Antolín *et al.* (2007) Role of peroxynitrite in endothelial damage mediated by Cyclosporine A. *Free Radical Biology and Medicine* **42**(3):394-403.