

SOD-2 (N-20): sc-18503

BACKGROUND

The superoxide dismutase family is composed of three metalloenzymes (SOD-1, SOD-2 and SOD-3) that catalyze the oxido-reduction of reactive oxygen species (ROS) such as superoxide anion. The SOD-2 precursor is a 222 amino acid protein that is encoded by nuclear chromatin, synthesized in the cytosol and imported posttranslationally into the mitochondrial matrix. Unlike SOD-1, which is a homodimeric cytosolic Cu-Zn enzyme, SOD-2 is a homotetrameric manganese enzyme (also known as MnSOD) that functions in the mitochondrion. ROS are implicated in a wide range of degenerative processes, including Alzheimer disease, Parkinson disease and ischemic heart disease. Homozygous mutant mice, which lack SOD-2, exhibit dilated cardiomyopathy, accumulation of lipid in liver and skeletal muscle, metabolic acidosis, oxidative DNA damage and respiratory chain deficiencies in heart and skeletal muscle. Polymorphisms in the SOD-2 gene have also been implicated in nonfamilial, idiopathic, dilated cardiomyopathy in humans.

CHROMOSOMAL LOCATION

Genetic locus: SOD2 (human) mapping to 6q25.3; Sod2 (mouse) mapping to 17 A1.

SOURCE

SOD-2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SOD-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18503 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SOD-2 (N-20) is recommended for detection of SOD-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SOD-2 (N-20) is also recommended for detection of SOD-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SOD-2 siRNA (h): sc-41655, SOD-2 siRNA (m): sc-41656, SOD-2 siRNA (r): sc-270084, SOD-2 shRNA Plasmid (h): sc-41655-SH, SOD-2 shRNA Plasmid (m): sc-41656-SH, SOD-2 shRNA Plasmid (r): sc-270084-SH, SOD-2 shRNA (h) Lentiviral Particles: sc-41655-V, SOD-2 shRNA (m) Lentiviral Particles: sc-41656-V and SOD-2 shRNA (r) Lentiviral Particles: sc-270084-V.

Molecular Weight of SOD-2: 25 kDa.

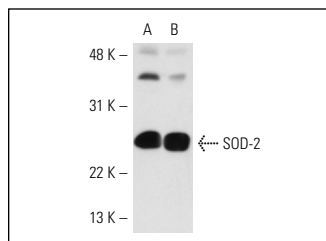
RESEARCH USE

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

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SOD-2 (N-20): sc-18503. Western blot analysis of SOD-2 expression in DU 145 (A) and HISM (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Xia, Z., et al. 2006. Antioxidant N-acetylcysteine restores myocardial Mn-SOD activity and attenuates myocardial dysfunction in diabetic rats. *Eur. J. Pharmacol.* 544: 118-125.
- Zraika, S., et al. 2006. The influence of genetic background on the induction of oxidative stress and impaired Insulin secretion in mouse islets. *Diabetologia* 49: 1254-1263.
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- Ravichandran, P., et al. 2009. Induction of apoptosis in rat lung epithelial cells by multiwalled carbon nanotubes. *J. Biochem. Mol. Toxicol.* 23: 333-344.
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- Baluchamy, S., et al. 2010. Induction of cell death through alteration of oxidants and antioxidants in lung epithelial cells exposed to high energy protons. *J. Biol. Chem.* 285: 24769-24774.
- Vengellur, A., et al. 2011. The loss of HIF1 α leads to increased susceptibility to cadmium-chloride-induced toxicity in mouse embryonic fibroblasts. *J. Toxicol.* 2011: 391074.
- Koziel, A., et al. 2012. The influence of high glucose on the aerobic metabolism of endothelial EA.hy926 cells. *Pflugers Arch.* 464: 657-669.



Try **SOD-2 (E-10): sc-137254** or **SOD-2 (A-2): sc-133134**, our highly recommended monoclonal alternatives to SOD-2 (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **SOD-2 (E-10): sc-137254**.