

# SOD-2 (FL-222): sc-30080

## 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 (FL-222) is a rabbit polyclonal antibody raised against amino acids 1-222 representing full length SOD-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SOD-2 (FL-222) 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 (FL-222) is also recommended for detection of SOD-2 in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of SOD-2: 25 kDa.

Positive Controls: SOD-2 (h): 293T Lysate: sc-176492, HISM cell lysate: sc-2229 or DU 145 cell lysate: sc-2268.

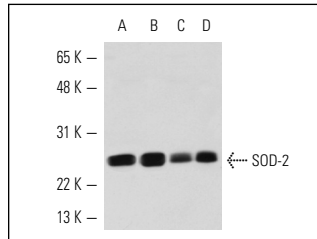
## STORAGE

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

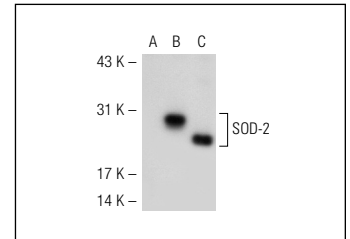
## RESEARCH USE

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

## DATA



SOD-2 (FL-222): sc-30080. Western blot analysis of SOD-2 expression in DU 145 (A), HISM (B), SK-N-MC (C) and T98G (D) whole cell lysates.



SOD-2 (FL-222): sc-30080. Western blot analysis of SOD-2 expression in non-transfected 293T: sc-117752 (A), human SOD-2 transfected 293T: sc-176492 (B) and HISM (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Lyngholm, M., et al. 2008. Immunohistochemical markers for corneal stem cells in the early developing human eye. *Exp. Eye Res.* 87: 115-121.
- Bajova, H., et al. 2008. Chronic CXCL10 alters the level of activated ERK 1/2 and transcriptional factors CREB and NFκB in hippocampal neuronal cell culture. *J. Neuroimmunol.* 195: 36-46.
- Seifert, E.L., et al. 2008. Essential role for uncoupling protein-3 in mitochondrial adaptation to fasting but not in fatty acid oxidation or fatty acid anion export. *J. Biol. Chem.* 283: 25124-25131.
- Arima, M., et al. 2008. Effects of antenatal dexamethasone on antioxidant enzymes and nitric oxide synthase in the rat lung. *J. Pharmacol. Sci.* 106: 242-248.
- Suman, S., et al. 2011. A calcium-insensitive attenuated nitrosative stress response contributes significantly in the radioresistance of Sf9 insect cells. *Int. J. Biochem. Cell Biol.* 43: 1340-1353.
- Um, H.S., et al. 2011. Treadmill exercise represses neuronal cell death in an aged transgenic mouse model of Alzheimer's disease. *Neurosci. Res.* 69: 161-173.
- Singh, B., et al. 2011. Partial inhibition of estrogen-induced mammary carcinogenesis in rats by tamoxifen: balance between oxidant stress and estrogen responsiveness. *PLoS ONE* 6: e25125.
- St-Louis, R., et al. 2012. Reactive oxygen species are required for the hypothalamic osmoregulatory response. *Endocrinology* 153: 1317-1329.

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Try **SOD-2 (E-10): sc-137254** or **SOD-2 (A-2): sc-133134**, our highly recommended monoclonal alternatives to SOD-2 (FL-222). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SOD-2 (E-10): sc-137254**.