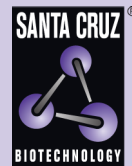


SOD-3 (G-11): sc-376948



The Power to Question

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. ROS are implicated in a wide range of degenerative processes, including Alzheimer's disease, Parkinson's disease and ischemic heart disease. Cu/Zn superoxide dismutase-1 (SOD-1) is a well characterized cytosolic scavenger of oxygen free radicals that requires copper and zinc binding to potentiate its enzymatic activity. 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. SOD-3, also designated extracellular superoxide dismutase (EC-SOD), is an extracellular zinc and copper binding protein that destroys radicals that are toxic to biological systems but that are normally produced within cells. SOD-3 is found in extracellular fluids such as lymph, plasma and synovial fluid.

CHROMOSOMAL LOCATION

Genetic locus: SOD3 (human) mapping to 4p15.2; Sod3 (mouse) mapping to 5 C1.

SOURCE

SOD-3 (G-11) is a mouse monoclonal antibody raised against amino acids 19-108 mapping near the N-terminus of SOD-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SOD-3 (G-11) is available conjugated to agarose (sc-376948 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376948 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376948 PE), fluorescein (sc-376948 FITC), Alexa Fluor® 488 (sc-376948 AF488), Alexa Fluor® 546 (sc-376948 AF546), Alexa Fluor® 594 (sc-376948 AF594) or Alexa Fluor® 647 (sc-376948 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376948 AF680) or Alexa Fluor® 790 (sc-376948 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SOD-3 (G-11) is recommended for detection of SOD-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for SOD-3 siRNA (h): sc-44699, SOD-3 siRNA (m): sc-44700, SOD-3 siRNA (r): sc-270572, SOD-3 shRNA Plasmid (h): sc-44699-SH, SOD-3 shRNA Plasmid (m): sc-44700-SH, SOD-3 shRNA Plasmid (r): sc-270572-SH, SOD-3 shRNA (h) Lentiviral Particles: sc-44699-V, SOD-3 shRNA (m) Lentiviral Particles: sc-44700-V and SOD-3 shRNA (r) Lentiviral Particles: sc-270572-V.

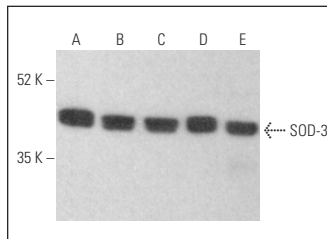
Molecular Weight of SOD-3: 32 kDa.

Positive Controls: JAR cell lysate: sc-2276, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

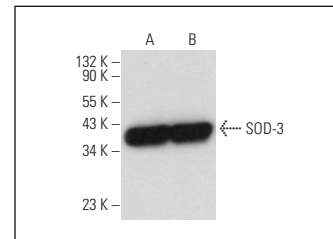
STORAGE

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

DATA



SOD-3 (G-11): sc-376948. Western blot analysis of SOD-3 expression in JAR (A), K-562 (B), Jurkat (C) and HeLa (D) whole cell lysates and human kidney tissue extract (E).



SOD-3 (G-11): sc-376948. Western blot analysis of SOD-3 expression in JAR (A) and Caki-1 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Liu, L., et al. 2019. Concomitant overexpression of triple antioxidant enzymes selectively increases circulating endothelial progenitor cells in mice with limb ischaemia. *J. Cell. Mol. Med.* 23: 4019-4029.
- Tseng, V., et al. 2020. Extracellular superoxide dismutase regulates early vascular hyaluronan remodeling in hypoxic pulmonary hypertension. *Sci. Rep.* 10: 280.
- Aoki, K., et al. 2021. Renalase is localized to the small intestine crypt and expressed upon the activation of NFκB p65 in mice model of fasting-induced oxidative stress. *Life Sci.* 267: 118904.
- Jeon, S. and Kim, M.M. 2021. The down-regulation of melanogenesis via MITF and FOXO1 signaling pathways in SIRT1 knockout cells using CRISPR/Cas9 system. *J. Biotechnol.* 342: 114-127.
- Ikelle, L., et al. 2021. Modulation of SOD3 levels is detrimental to retinal homeostasis. *Antioxidants* 10: 1595.
- González-Candia, A., et al. 2022. Cardioprotective antioxidant and anti-inflammatory mechanisms induced by intermittent hypobaric hypoxia. *Antioxidants* 11: 1043.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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