

Sulfiredoxin (E-2): sc-166747

BACKGROUND

Sulfiredoxin, also designated Sulfiredoxin-1 and chromosome 20 open reading frame 139 (C20orf139), is a cytoplasmic antioxidant protein involved in signaling through catalytic reduction of oxidative modifications. It regulates peroxiredoxins (PRXs), a family of proteins that reduce hydroperoxides, by reducing the conserved cysteine from sulfinic to sulfenic acid. This impacts the role of PRX in the reduction of other downstream transcription factors and kinase signaling pathways. The Sulfiredoxin protein specifically acts on the PRDX1, PRDX2, PRDX3 and PRDX4 peroxiredoxins, but not on PRDX5 or PRDX6. Sulfiredoxin acts as a phosphotransferase and an a-thioltransferase and is widely expressed, with highest levels detected in lung, spleen, kidney and thymus tissues.

REFERENCES

1. Chang, T.S., et al. 2004. Characterization of mammalian Sulfiredoxin and its reactivation of hyperoxidized peroxiredoxin through reduction of cysteine sulfinic acid in the active site to cysteine. *J. Biol. Chem.* 279: 50994-51001.
2. Woo, H.A., et al. 2005. Reduction of cysteine sulfinic acid by Sulfiredoxin is specific to 2-Cys peroxiredoxins. *J. Biol. Chem.* 280: 3125-3128.
3. Bozonet, S.M., et al. 2005. Oxidation of a eukaryotic 2-Cys peroxiredoxin is a molecular switch controlling the transcriptional response to increasing levels of hydrogen peroxide. *J. Biol. Chem.* 280: 23319-23327.

CHROMOSOMAL LOCATION

Genetic locus: SRXN1 (human) mapping to 20p13; Srxn1 (mouse) mapping to 2 G3.

SOURCE

Sulfiredoxin (E-2) is a mouse monoclonal antibody raised against a peptide mapping at the C-terminus of Sulfiredoxin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sulfiredoxin (E-2) is available conjugated to agarose (sc-166747 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166747 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166747 PE), fluorescein (sc-166747 FITC), Alexa Fluor® 488 (sc-166747 AF488), Alexa Fluor® 546 (sc-166747 AF546), Alexa Fluor® 594 (sc-166747 AF594) or Alexa Fluor® 647 (sc-166747 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166747 AF680) or Alexa Fluor® 790 (sc-166747 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166747 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

Sulfiredoxin (E-2) is recommended for detection of Sulfiredoxin 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).

Sulfiredoxin (E-2) is also recommended for detection of Sulfiredoxin in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Sulfiredoxin siRNA (h): sc-61622, Sulfiredoxin siRNA (m): sc-61623, Sulfiredoxin shRNA Plasmid (h): sc-61622-SH, Sulfiredoxin shRNA Plasmid (m): sc-61623-SH, Sulfiredoxin shRNA (h) Lentiviral Particles: sc-61622-V and Sulfiredoxin shRNA (m) Lentiviral Particles: sc-61623-V.

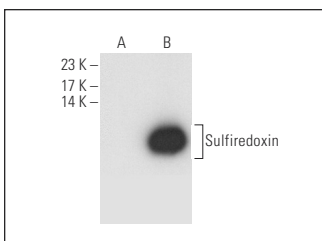
Molecular Weight of Sulfiredoxin: 13 kDa.

Positive Controls: Sulfiredoxin (h2): 293T Lysate: sc-116088.

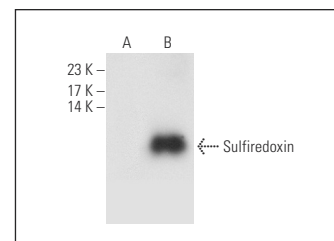
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Sulfiredoxin (E-2): sc-166747. Western blot analysis of Sulfiredoxin expression in non-transfected: sc-117752 (A) and human Sulfiredoxin transfected: sc-112169 (B) 293T whole cell lysates.



Sulfiredoxin (E-2): sc-166747. Western blot analysis of Sulfiredoxin expression in non-transfected: sc-117752 (A) and human Sulfiredoxin transfected: sc-116088 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ugbo, C., et al. 2020. JNK signaling regulates antioxidant responses in neurons. *Redox Biol.* 37: 101712.

STORAGE

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