

Sulfiredoxin (S-17): sc-51210

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. Findlay, V.J., et al. 2005. Sulfiredoxin: a potential therapeutic agent? *Biomed. Pharmacother.* 59: 374-379.
3. Basu, M.K., et al. 2005. Evolution of eukaryotic cysteine sulfinic acid reductase, sulfiredoxin (Srx), from bacterial chromosome partitioning protein ParB. *Cell Cycle* 4: 947-952.
4. Lee, D.Y., et al. 2005. ¹H, ¹⁵N, and ¹³C chemical shift assignments of the human sulfiredoxin (hSrx). *J. Biomol. NMR* 32: 339.
5. 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.
6. 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 (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Sulfiredoxin 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.

Blocking peptide available for competition studies, sc-51210 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Sulfiredoxin (S-17) is recommended for detection of Sulfiredoxin of human, rat and, to a lesser extent, mouse 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

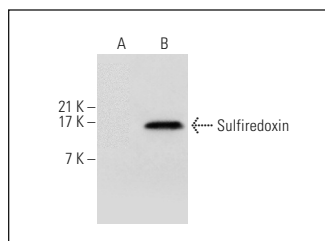
Sulfiredoxin (S-17) is also recommended for detection of Sulfiredoxin in additional species, including bovine and porcine.

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.

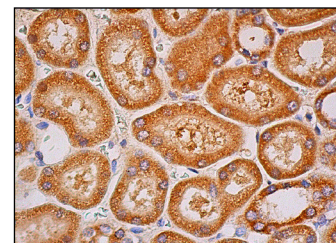
Molecular Weight of Sulfiredoxin: 13 kDa.

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

DATA



Sulfiredoxin (S-17): sc-51210. Western blot analysis of Sulfiredoxin expression in non-transfected: sc-117750 (A) and human Sulfiredoxin transfected: sc-116088 (B) whole cell lysates.



Sulfiredoxin (S-17): sc-51210. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

RESEARCH USE

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

PROTOCOLS

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



Try **Sulfiredoxin (H-10): sc-514940** or **Sulfiredoxin (B-4): sc-373829**, our highly recommended monoclonal alternatives to Sulfiredoxin (S-17).