

# Sulfiredoxin (Y-15): sc-51211

## 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. <sup>1</sup>H, <sup>15</sup>N, and <sup>13</sup>C 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Sulfiredoxin (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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-51211 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

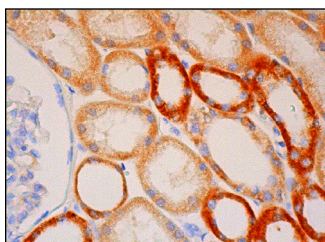
Sulfiredoxin (Y-15) is recommended for detection of Sulfiredoxin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 (Y-15) 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.

## DATA



Sulfiredoxin (Y-15): sc-51211. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in a subset of tubules.

## SELECT PRODUCT CITATIONS

1. Han, E.S., et al. 2008. The *in vivo* gene expression signature of oxidative stress. *Physiol. Genomics* 34: 112-126.
2. Sundar, I.K., et al. 2010. Peroxiredoxin 6 differentially regulates acute and chronic cigarette smoke-mediated lung inflammatory response and injury. *Exp. Lung Res.* 36: 451-462.

## RESEARCH USE

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

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Try **Sulfiredoxin (H-10): sc-514940** or **Sulfiredoxin (B-4): sc-373829**, our highly recommended monoclonal alternatives to Sulfiredoxin (Y-15).