

SO (I-20): sc-27310

BACKGROUND

Sulfite oxidase (SO), a homodimeric protein that localizes to the intermembrane space of mitochondria, catalyzes the oxidation of sulfite to sulfate, the terminal reaction in the oxidative degradation of the sulfur amino acids cysteine and methionine. Genetic deficiency of SO contributes to neurological abnormalities and often leads to death at an early age. Mutation of Arginine 160 in humans decreases the intramolecular electron transfer (IET) rate, which contributes to the fatality of this genetic disorder. Also, the Tyrosine 343 residue in humans plays an important role in both substrate binding and oxidation of sulfite by SO. The human SO gene maps to chromosome 12, and shows high expression in liver, kidney, skeletal muscle, heart, placenta and brain.

REFERENCES

1. Kisker, C., et al. 1997. Molecular basis of sulfite oxidase deficiency from the structure of sulfite oxidase. *Cell* 91: 973-983.
2. Garrett, R.M., et al. 1998. Human sulfite oxidase R160Q: identification of the mutation in a sulfite oxidase-deficient patient and expression and characterization of the mutant enzyme. *Proc. Natl. Acad. Sci. USA* 95: 6394-6398.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606887. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Feng, C., et al. 2003. Essential role of conserved arginine 160 in intramolecular electron transfer in human sulfite oxidase. *Biochemistry* 42: 12235-12242.
5. Sass, J. O., et al. 2004. New approaches towards laboratory diagnosis of isolated sulphite oxidase deficiency. *Ann. Clin. Biochem.* 41: 157-159.

CHROMOSOMAL LOCATION

Genetic locus: SUOX (human) mapping to 12q13.2; Suox (mouse) mapping to 10 D3.

SOURCE

SO (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SO 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-27310 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.

RESEARCH USE

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

APPLICATIONS

SO (I-20) is recommended for detection of precursor and mature SO of human and, to a lesser extent, mouse and rat 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).

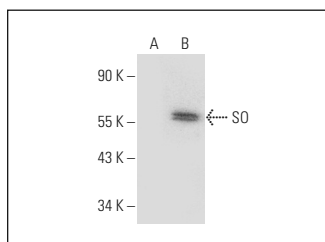
SO (I-20) is also recommended for detection of precursor and mature SO in additional species, including equine, canine and porcine.

Suitable for use as control antibody for SO siRNA (h): sc-44404, SO siRNA (m): sc-44405, SO shRNA Plasmid (h): sc-44404-SH, SO shRNA Plasmid (m): sc-44405-SH, SO shRNA (h) Lentiviral Particles: sc-44404-V and SO shRNA (m) Lentiviral Particles: sc-44405-V.

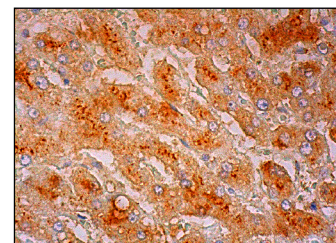
Molecular Weight of SO: 55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or SO (h): 293T Lysate: sc-116804.

DATA



SO (I-20): sc-27310. Western blot analysis of SO expression in non-transfected: sc-117750 (A) and human SO transfected: sc-116804 (B) whole cell lysates.



SO (I-20): sc-27310. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

PROTOCOLS

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



Try **SO (F-6): sc-393688** or **SO (G-1): sc-390323**, our highly recommended monoclonal alternatives to SO (I-20).