SANTA CRUZ BIOTECHNOLOGY, INC.

SO (E-19): sc-27309

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 intra-molecular 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.
6. Wilson, H.L., et al. 2004. The role of Tyrosine 343 in substrate binding and catalysis by human sulfite oxidase. J. Biol. Chem. 279: 15105-15113.

CHROMOSOMAL LOCATION

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

SOURCE

SO (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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-27309 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

SO (E-19) is recommended for detection of precursor and mature SO of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

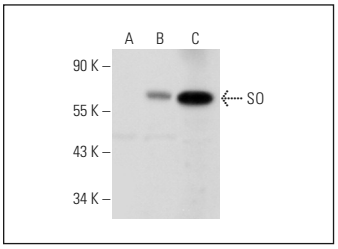
SO (E-19) is also recommended for detection of precursor and mature SO in additional species, including equine, canine, bovine and porcine.

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: SO (h): 293T Lysate: sc-116804, human kidney extract: sc-363764 or mouse liver extract: sc-2256.

DATA



SO (E-19): sc-27309. Western blot analysis of SO expression in non-transfected: sc-117750 (**A**) and human SO transfected: sc-116804 (**B**) whole cell lysates and human kidney tissue extract (**C**).

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.

MONOS Satisfaction Guaranteed

Try **SO (F-6): sc-393688** or **SO (G-1): sc-390323**, our highly recommended monoclonal alternatives to SO (E-19).