

SULT1 (C-16): sc-27980

BACKGROUND

The soluble sulfotransferases contribute to the elimination of xenobiotics, the activation of procarcinogens and the regulation of hormones by catalyzing the sulfate conjugation of these substances. Members of the three groups comprising this superfamily show selectivity to certain substrate compounds. SULT1 sulfotransferases exhibit N-sulfating activities of carcinogenic heterocyclic amines, and are selective toward phenols, whereas SULT2 enzymes prefer hydroxysteroids and SULT3 family members are selective for N-substituted aryl and alicyclic compounds. High SULT1 activity is associated with an increased protection against many of the carcinogens that lead to colorectal cancer. Activity of the SULT1A1 allele is higher in the elderly, possibly because of protection conferred by SULT1 against cell and tissue damage brought on by aging.

REFERENCES

1. Nagata, K., et al. 1997. Arylamine activating sulfotransferase in liver. *Mutat. Res.* 376: 267-272.
2. Yamazoe, Y., et al. 1999. Sulfotransferase catalyzing sulfation of heterocyclic amines. *Cancer Lett.* 143: 103-107.
3. Engelke, C.E., et al. 2000. Association between functional genetic polymorphisms of human sulfotransferases 1A1 and 1A2. *Pharmacogenetics* 10: 163-169.
4. Meinl, W., et al. 2001. Structure and localization of the human SULT1B1 gene: neighborhood to SULT1E1 and a SULT1D pseudogene. *Biochem. Biophys. Res. Commun.* 288: 855-862.
5. Hou, M.F., et al. 2002. Sulfotransferase 1A2*2 is a risk factor for early-onset breast cancer. *Int. J. Mol. Med.* 10: 609-612.
6. Thomas, N.L., et al. 2003. Sulfation of apomorphine by human sulfotransferases: evidence of a major role for the polymorphic phenol sulfotransferase, SULT1A1. *Xenobiotica* 33: 1139-1148.
7. Rossi, A.M., et al. 2004. Phenotype-genotype relationships of SULT1A1 in human liver and variations in the IC50 of the SULT1A1 inhibitor quercetin. *Int. J. Clin. Pharmacol. Ther.* 42: 561-567.
8. Hempel, N., et al. 2004. The human sulfotransferase SULT1A1 gene is regulated in a synergistic manner by Sp1 and GA binding protein. *Mol. Pharmacol.* 66: 1690-1701.

SOURCE

SULT1 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Sulfotransferase 1A1 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-27980 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SULT1 (C-16) is recommended for detection of a broad range of SULT1 family members and, to a lesser extent, SULT2 family members 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SULT1 (C-16) is also recommended for detection of a broad range of SULT1 family members and, to a lesser extent, SULT2 family members in additional species, including canine and porcine.

Molecular Weight of SULT1: 35 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yeo, M., et al. 2010. The loss of phenol sulfotransferase 1 in hepatocellular carcinogenesis. *Proteomics* 10: 266-276.
2. Bar, J., et al. 2013. Action of Halowax 1051 on enzymes of phase I (CYP1A1) and phase II (SULT1A and COMT) metabolism in the pig ovary. *Int. J. Endocrinol.* 2013: 590261.

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.

PROTOCOLS

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



Try **SULT1 (B-4): sc-376159** or **SULT1 (3F10): sc-59705**, our highly recommended monoclonal alternatives to SULT1 (C-16).