SANTA CRUZ BIOTECHNOLOGY, INC.

SULT1 (H-55): sc-32928

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: SULT1A1/SULT1A2/SULT1A3 (human) mapping to 16p12.2.

SOURCE

SULT1 (H-55) is a rabbit polyclonal antibody raised against amino acids 51-105 mapping within an internal region of SULT1A1 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.

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

SULT1 (H-55) is recommended for detection of Sulfotransferase 1A1, 1A2 and 1A3 of human and Sulfotransferase 1A1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); partially cross reactive with other SULT family members.

SULT1 (H-55) is also recommended for detection of Sulfotransferase 1A1, 1A2 and 1A3 in additional species, including equine.

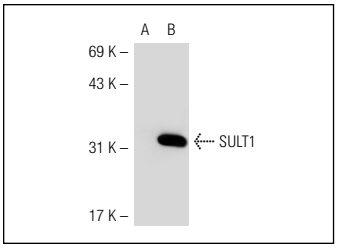
Molecular Weight of SULT1: 35 kDa.

Positive Controls: SULT1 (h): 293 Lysate : sc-110796 or Hep G2 cell lysate: sc-2227.

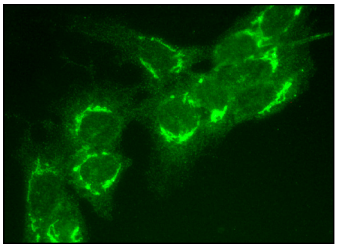
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SULT1 (H-55): sc-32928. Western blot analysis of SULT1 expression in non-transfected: sc-110760 (**A**) and human SULT1 transfected: sc-110796 (**B**) 293 whole cell lysates.



SULT1 (H-55): sc-32928. Immunofluorescence staining of formalin-fixed HepG2 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Yoshikawa, Y., et al. 2009. Knockdown of superoxide dismutase 2 enhances acetaminophen-induced hepatotoxicity in rat. Toxicology 264: 89-95.

MONOS Satisfaction Guaranteed

Try **SULT1 (B-4): sc-376159** or **SULT1 (3F10): sc-59705**, our highly recommended monoclonal alternatives to SULT1 (H-55).