SANTA CRUZ BIOTECHNOLOGY, INC.

SULT1 (B-4): sc-376159

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.

CHROMOSOMAL LOCATION

Genetic locus: SULT1A1/SULT1A2/SULT1A3 (human) mapping to 16p11.2; Sult1a1 (mouse) mapping to 7 F3, Sult2a2/Sult2a3 (mouse) mapping to 7 A1.

SOURCE

SULT1 (B-4) is a mouse monoclonal antibody raised against amino acids 51-105 mapping within an internal region of SULT1A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SULT1 (B-4) is available conjugated to agarose (sc-376159 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376159 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376159 PE), fluorescein (sc-376159 FITC), Alexa Fluor® 488 (sc-376159 AF488), Alexa Fluor® 546 (sc-376159 AF546), Alexa Fluor® 594 (sc-376159 AF594) or Alexa Fluor® 647 (sc-376159 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376159 AF680) or Alexa Fluor® 790 (sc-376159 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SULT1 (B-4) is recommended for detection of SULT1A1, SULT1A2 and SULT1A3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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); partially cross reactive with other SULT family members.

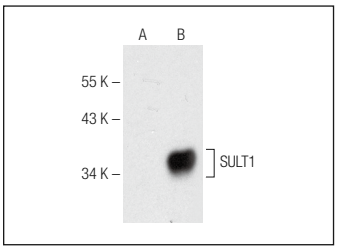
Molecular Weight of SULT1: 35 kDa.

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

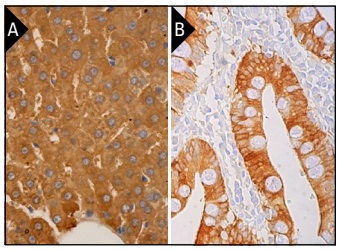
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SULT1 (B-4): sc-376159. Western blot analysis of SULT1 expression in non-transfected: sc-110760 (**A**) and human SULT1 transfected: sc-110796 (**B**) 293 whole cell lysates.



SULT1 (B-4): sc-376159. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (**B**).

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.