SANTA CRUZ BIOTECHNOLOGY, INC.

SULT4A1 (H-4): sc-376728

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sulfation is an essential conjugation reaction that increases the water solubility of many compounds, thereby influencing their renal excretion and also resulting in the formation of active metabolites. SULT4A1 (sulfotransferase family 4A, member 1), whose alternative names include brain sulfotransferase-like protein, nervous system sulfotransferase, NST, SULTX3, hBR-STL-1, BRSTL1, BR-STL-1, MGC40032 and DJ388M5.3, is a 284 amino acid protein showing cytoplasmic localization. As a member of the sulfotransferase 1 family, SULT4A1 plays a role in elimination of xenobiotics, activation of procarcinogens and regulation of hormones. SULT4A1 is highly expressed in cerebral cortex and frontal lobe, with lower expression in cerebellum, temporal and occipital lobes. Two SULT4A1 isoforms exist to alternative splicing events. The gene encoding SULT4A1 maps to human chromosome 22q13.31, a region which has been implicated in predisposition to schizophrenia.

REFERENCES

1. Glatt, H. 2000. Sulfotransferases in the bioactivation of xenobiotics. Chem. Biol. Interact. 129: 141-170.
2. Glatt, H., et al. 2000. Sulfotransferases: genetics and role in toxicology. Toxicol. Lett. 112-113: 341-348.
3. Glatt, H., et al. 2001. Human cytosolic sulphotransferases: genetics, characteristics, toxicological aspects. Mutat. Res. 482: 27-40.
4. Liyou, N.E., et al. 2003. Localization of a brain sulfotransferase, SULT4A1, in the human and rat brain: an immunohistochemical study. J. Histochem. Cytochem. 51: 1655-1664.
5. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608359. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Brennan, M.D., et al. 2005. Transmission disequilibrium suggests a role for the sulfotransferase-4A1 gene in schizophrenia. Am. J. Med. Genet. B Neuropsychiatr. Genet. 139B: 69-72.
7. Allali-Hassani, A., et al. 2007. Structural and chemical profiling of the human cytosolic sulfotransferases. PLoS Biol. 5: e97.

CHROMOSOMAL LOCATION

Genetic locus: SULT4A1 (human) mapping to 22q13.31; Sult4a1 (mouse) mapping to 15 E2.

SOURCE

SULT4A1 (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-43 near the N-terminus of SULT4A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376728 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SULT4A1 (H-4) is recommended for detection of SULT4A1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SULT4A1 (H-4) is also recommended for detection of SULT4A1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SULT4A1 siRNA (h): sc-76609, SULT4A1 siRNA (m): sc-153927, SULT4A1 shRNA Plasmid (h): sc-76609-SH, SULT4A1 shRNA Plasmid (m): sc-153927-SH, SULT4A1 shRNA (h) Lentiviral Particles: sc-76609-V and SULT4A1 shRNA (m) Lentiviral Particles: sc-153927-V.

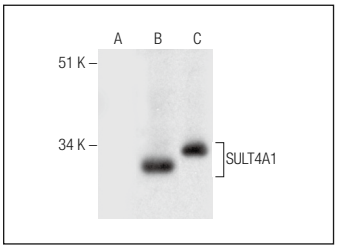
Molecular Weight of SULT4A1 isoforms: 33/30 kDa.

Positive Controls: SULT4A1 (h): 293T Lysate: sc-114749 or rat cerebellum extract: sc-2398.

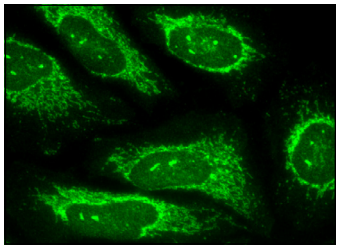
RECOMMENDED SUPPORT REAGENTS

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.

DATA



SULT4A1 (H-4): sc-376728. Western blot analysis of SULT4A1 expression in non-transfected: sc-117752 (**A**) and human SULT4A1 transfected: sc-114749 (**B**) 293T whole cell lysates and rat cerebellum tissue extract (**C**).



SULT4A1 (H-4): sc-376728. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.