

# SULT4A1 (N-14): sc-86890

## 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

- Glatt, H. 2000. Sulfotransferases in the bioactivation of xenobiotics. *Chem. Biol. Interact.* 129: 141-170.
- Glatt, H., et al. 2000. Sulfotransferases: genetics and role in toxicology. *Toxicol. Lett.* 112-113: 341-348.
- Glatt, H., et al. 2001. Human cytosolic sulphotransferases: genetics, characteristics, toxicological aspects. *Mutat. Res.* 482: 27-40.
- 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.
- 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/>
- 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.
- Allali-Hassani, A., et al. 2007. Structural and chemical profiling of the human cytosolic sulfotransferases. *PLoS Biol.* 5: e97.
- Meltzer, H.Y., et al. 2008. Association of SULT4A1 SNPs with psychopathology and cognition in patients with schizophrenia or schizoaffective disorder. *Schizophr. Res.* 106: 258-264.
- Lewis, A.G., et al. 2009. Lack of exonic sulfotransferase 4A1 mutations in controls and schizophrenia cases. *Psychiatr. Genet.* 19: 53-55.

## CHROMOSOMAL LOCATION

Genetic locus: SULT4A1 (human) mapping to 22q13.1; Sult4a1 (mouse) mapping to 15 E2.

## SOURCE

SULT4A1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SULT4A1 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-86890 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SULT4A1 (N-14) is recommended for detection of SULT4A1 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).

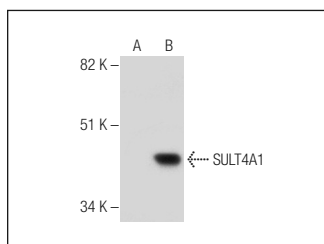
SULT4A1 (N-14) is also recommended for detection of SULT4A1 in additional species, including canine, bovine, porcine and avian.

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.

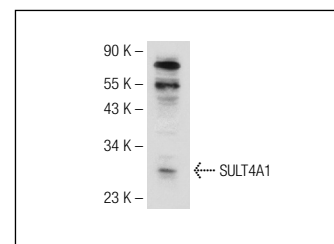
Molecular Weight of SULT4A1 isoforms: 33/30 kDa.

Positive Controls: SULT4A1 (h2): 293T Lysate: sc-129887.

## DATA



SULT4A1 (N-14): sc-86890. Western blot analysis of SULT4A1 expression in non-transfected: sc-117752 (A) and human SULT4A1 transfected: sc-129887 (B) 293T whole cell lysates.



SULT4A1 (N-14): sc-86890. Western blot analysis of SULT4A1 expression in 293T whole cell lysate.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.