

# SULT4A1 (B-3): sc-374545

## 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.

## REFERENCE

- 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

SULT4A1 (B-3) 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<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SULT4A1 (B-3) is available conjugated to agarose (sc-374545 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374545 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374545 PE), fluorescein (sc-374545 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374545 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374545 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374545 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374545 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374545 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374545 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374545 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

SULT4A1 (B-3) 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).

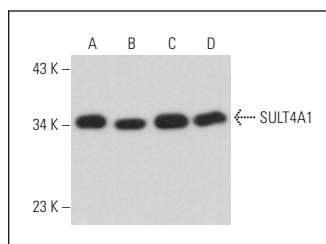
SULT4A1 (B-3) is also recommended for detection of SULT4A1 in additional species, including canine, bovine and porcine.

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.

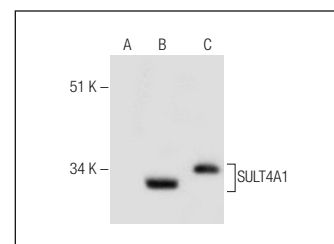
Molecular Weight of SULT4A1 isoforms: 33/30 kDa.

Positive Controls: SULT4A1 (h): 293T Lysate: sc-114749, rat cerebellum extract: sc-2398 or mouse cerebellum extract: sc-2403.

## DATA



SULT4A1 (B-3): sc-374545. Western blot analysis of SULT4A1 expression in human cerebral cortex (A), mouse cerebellum (B), rat hippocampus (C) and rat brain (D) tissue extracts.



SULT4A1 (B-3): sc-374545. 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).

## SELECT PRODUCT CITATIONS

- Probert, P.M., et al. 2016. Progenitor-derived hepatocyte-like (B-13/H) cells metabolise 1'-hydroxyestragole to a genotoxic species via a SULT2B1-dependent mechanism. *Toxicol. Lett.* 243: 98-110.
- Hashiguchi, T., et al. 2018. Sulfotransferase 4A1 (SULT4A1) increases its expression in mouse neurons as they mature. *Drug Metab. Dispos.* 46: 860-864.

## 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.

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