SANTA CRUZ BIOTECHNOLOGY, INC.

GAL3ST2 (P-12): sc-167947

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These enzymes differ in their tissue distribution and substrate specificity, although the gene structure (number and length of exons) is similar among family members. GAL3ST2 (galactose-3-O-sulfotransferase 2), also known as GP3ST, is a 398 amino acid single-pass type II membrane protein belonging to the galactose-3-O-sulfotransferase family. GAL3ST2 localizes to Golgi apparatus and is ubiquitously expressed with high levels of expression found in heart, stomach, colon, liver and spleen. Strongly inhibited by Cu^{2+} and Zn^{2+}, GAL3ST2 catalyzes sulfonation by transferring a sulfate group to the 3' position of non-reducing β-galactosyl residues and may also be involved in tumor metastasis by regulating the expression of intergrins and the ability to adhere to selectins.

REFERENCES

1. Hirahara, Y., et al. 2000. cDNA cloning, genomic cloning, and tissue-specific regulation of mouse cerebroside sulfotransferase. Eur. J. Biochem. 267: 1909-1917.
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3. Suzuki, A., et al. 2001. Molecular cloning and expression of a novel human β-Gal-3-O-sulfotransferase that acts preferentially on N-acetyllactosamine in N- and O-glycans. J. Biol. Chem. 276: 24388-24395.
4. El-Fasakhany, F.M., et al. 2001. A novel human Gal-3-O-sulfotransferase: molecular cloning, characterization, and its implications in biosynthesis of (SO(4)-3)Galβ1-4(Fucα1-3)GlcNAc. J. Biol. Chem. 276: 26988-26994.
5. Seko, A., et al. 2002. Down-regulation of Gal 3-O-sulfotransferase-2 (Gal3ST-2) expression in human colonic non-mucinous adenocarcinoma. Jpn. J. Cancer Res. 93: 507-515.
6. Chandrasekaran, E.V., et al. 2004. Identification of physiologically relevant substrates for cloned Gal: 3-O-sulfotransferases (Gal3STs): distinct high affinity of Gal3ST-2 and LS180 sulfotransferase for the globo H backbone, Gal3ST-3 for N-glycan multiterminal Galβ1, 4GlcNAcβ units and 6-sulfoGalβ1, 4GlcNAcβ, and Gal3ST-4 for the mucin core-2 trisaccharide. J. Biol. Chem. 279: 10032-10041.

CHROMOSOMAL LOCATION

Genetic locus: GAL3ST2 (human) mapping to 2q37.3; Gal3st2 (mouse) mapping to 1 D.

SOURCE

GAL3ST2 (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GAL3ST2 of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-167947 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GAL3ST2 (P-12) is recommended for detection of GAL3ST2 of mouse, rat, human and hamster 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); non cross-reactive with GAL3ST1, GAL3ST3 or GAL3ST4.

Suitable for use as control antibody for GAL3ST2 siRNA (h): sc-94894, GAL3ST2 siRNA (m): sc-145307, GAL3ST2 shRNA Plasmid (h): sc-94894-SH, GAL3ST2 shRNA Plasmid (m): sc-145307-SH, GAL3ST2 shRNA (h) Lentiviral Particles: sc-94894-V and GAL3ST2 shRNA (m) Lentiviral Particles: sc-145307-V.

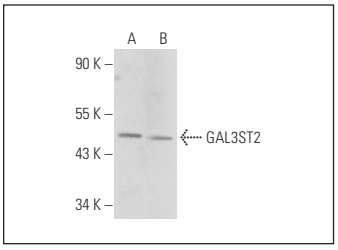
Molecular Weight of GAL3ST2: 46 kDa.

Positive Controls: CHO whole cell lysate or HEK293 whole cell lysate: sc-45136.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GAL3ST2 (P-12): sc-167947. Western blot analysis of GAL3ST2 expression in HEK293 (**A**) and CHO (**B**) whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.