SANTA CRUZ BIOTECHNOLOGY, INC.

β-1,4-Gal-T4 (M-15): sc-18002

BACKGROUND

Enzymatic glycosylation of proteins and lipids is an important biological process. A large number of glycosyltransferases synthesize a wide variety of glycoconjugates. A novel putative member of the human UDP-galactose:β-N-acetylglucosamine β-1,4-galactosyltransferase family, designated β-1,4-Gal-T4, encodes a type II membrane protein which has significant sequence similarity to other β-1,4-galactosyltransferases. β-1,4-Gal-T4 catalyzes glycosylation of glycolipids with terminal β-GlcNAc. Unlike β-1,4-Gal-T1, -T2 and -T3, β-1,4-Gal-T4 does not transfer galactose to asialo-agalacto-fetuin, asialo-agacto-transferrin or ovalbumin. β-1,4-Gal-T4 has a very restricted pattern of tissue expression. β-1,4-Gal-T4 is localized to two subcellular compartments, the Golgi complex, where it participates in cellular glycosylation, and the plasma membrane, where it functions as a receptor for oligosaccharide ligands on opposing cells or in the extracellular matrix.

REFERENCES

1. Shur, B.D. 1984. The receptor function of galactosyltransferase during cellular interactions. Mol. Cell Biochem. 61: 143-158.
2. Shur, B.D. 1986. The receptor function of galactosyltransferase during mammalian fertilization. Adv. Exp. Med. Biol. 207: 79-93.
3. Strous, G.J. 1986. Golgi and secreted galactosyltransferase. CRC Crit. Rev. Biochem. 21: 119-151.
4. Amado, M., et al. 1998. A family of human β-3-galactosyltransferases. Characterization of four members of a UDP-galactose:β-N-acetyl-glucosamine/β-nacetyl-galactosamine β-1,3-galactosyltransferase family. J. Biol. Chem. 273: 12770-12778.
5. Amado, M., et al. 1999. Identification and characterization of large galactosyltransferase gene families: galactosyltransferases for all functions. Biochim. Biophys. Acta 1473: 35-53.

CHROMOSOMAL LOCATION

Genetic locus: B4GALT4 (human) mapping to 3q13.3; B4galt4 (mouse) mapping to 16 B4.

SOURCE

β-1,4-Gal-T4 (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of β-1,4-Gal-T4 of mouse 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-18002 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

β-1,4-Gal-T4 (M-15) is recommended for detection of β-1,4-Gal-T4 of mouse, rat and, to a lesser extent, 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).

β-1,4-Gal-T4 (M-15) is also recommended for detection of β-1,4-Gal-T4 in additional species, including avian.

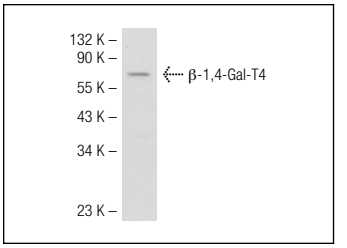
Suitable for use as control antibody for β-1,4-Gal-T4 siRNA (h): sc-40620, β-1,4-Gal-T4 siRNA (m): sc-40621, β-1,4-Gal-T4 shRNA Plasmid (h): sc-40620-SH, β-1,4-Gal-T4 shRNA Plasmid (m): sc-40621-SH, β-1,4-Gal-T4 shRNA (h) Lentiviral Particles: sc-40620-V and β-1,4-Gal-T4 shRNA (m) Lentiviral Particles: sc-40621-V.

Positive Controls: HeLa whole cell lysate: sc-2200 or SW-13 cell lysate: sc-24778.

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



β-1,4-Gal-T4 (M-15): sc-18002. Western blot analysis of β-1,4-Gal-T4 expression in SW-13 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.