SANTA CRUZ BIOTECHNOLOGY, INC.

β-1,4-Gal-T4 (P-20): sc-22287

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β3-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.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603093. World Wide Web URL: http://www.ncbi.nlm.nih. gov/omim/
7. LocusLink Report (LocusID: 8708). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: B4GALT4 (human) mapping to 3q13.32; B4galt4 (mouse) mapping to 16 B4.

SOURCE

β-1,4-Gal-T4 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β-1,4-Gal-T4 of human origin.

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.

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-22287 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-1,4-Gal-T4 (P-20) is recommended for detection of β-1,4-Gal-T4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (P-20) is also recommended for detection of β-1,4-Gal-T4 in additional species, including equine, bovine and porcine.

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.

Molecular Weight of β-1,4-Gal-T4: 43 kDa.

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) 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.

PROTOCOLS

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