

β -1,4-Gal-T4 (K-20): sc-22288

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

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- Strous, G.J. 1986. Golgi and secreted galactosyltransferase. *CRC Crit. Rev. Biochem.* 21: 119-151.
- Amado, M., et al. 1998. A family of human β 3-galactosyltransferases. Characterization of four members of a UDP-galactose: β -N-acetylglucosamine/ β -N-acetyl-galactosamine β -1,3-galactosyltransferase family. *J. Biol. Chem.* 273: 12770-12778.
- Amado, M., et al. 1999. Identification and characterization of large galactosyltransferase gene families: galactosyltransferases for all functions. *Biochim. Biophys. Acta* 1473: 35-53.
- 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/>
- 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 (K-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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22288 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β -1,4-Gal-T4 (K-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 (K-20) is also recommended for detection of β -1,4-Gal-T4 in additional species, including equine, canine, bovine, porcine and 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.

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.