

β-1,4-Gal-T1 (G-15): sc-22277

BACKGROUND

The β-1,4-Gal-T1 gene, which maps to chromosome 9p21.1, is one of seven β-1,4-galactosyltransferase (β-1,4-Gal-T) genes. These genes encode type II membrane-bound glycoproteins that appear to have exclusive specificity for the donor substrate UDP-galactose. These protein products transfer galactose in a β1,4 linkage to similar acceptor sugars, such as GlcNAc, Glc, and Xyl. These type II membrane glycoproteins have an N-terminal hydrophobic signal sequence that directs the protein to the Golgi apparatus and remains uncleaved to function as a transmembrane anchor. The β-1,4-Gal-T1 gene is unique among the β-1,4-Gal-T genes in that it encodes an enzyme that participates in both glycoconjugation and lactose biosynthesis. The β-1,4-Gal-T1 protein is encoded by two transcripts with approximate lengths of 4.1 kb and 3.9 kb, which differ only at their 5' ends. The longer transcript encodes the type II membrane-bound, *trans*-Golgi resident protein involved in glycoconjugate biosynthesis. The shorter transcript encodes a protein that is cleaved to form the soluble lactose synthase.

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 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.
- 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/>

SOURCE

β-1,4-Gal-T1 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of β-1,4-galactosyltransferase 1 of human 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-22277 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

β-1,4-Gal-T1 (G-15) is recommended for detection of β-1,4-galactosyltransferase 1 of 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).

Molecular Weight of β-1,4-Gal-T1: 50/52 kDa.

Positive Controls: Hep G2 whole cell lysate: sc-2227.

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.

STORAGE

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

PROTOCOLS

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


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 Guaranteed

Try **β-1,4-Gal-T1 (A-3): sc-515551**, our highly recommended monoclonal alternative to β-1,4-Gal-T1 (G-15).