

β -1,4-Gal-T1 (N-20): sc-22279

BACKGROUND

The β -1,4-Gal-T1 gene, which maps to chromosome 9p21.1, is one of 7 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 β 1,4 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.

CHROMOSOMAL LOCATION

Genetic locus: B4GALT1 (human) mapping to 9p21.1; B4galt1 (mouse) mapping to 4 A5.

SOURCE

β -1,4-Gal-T1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of β -1,4-galactosyltransferase 1 of human origin.

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-22279 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β -1,4-Gal-T1 (N-20) is recommended for detection of β -1,4-galactosyltransferase 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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-T1 (N-20) is also recommended for detection of β -1,4-galactosyltransferase 1 in additional species, including canine and porcine.

Suitable for use as control antibody for β -1,4-Gal-T1 siRNA (h): sc-40616, β -1,4-Gal-T1 siRNA (m): sc-40617, β -1,4-Gal-T1 shRNA Plasmid (h): sc-40616-SH, β -1,4-Gal-T1 shRNA Plasmid (m): sc-40617-SH, β -1,4-Gal-T1 shRNA (h) Lentiviral Particles: sc-40616-V and β -1,4-Gal-T1 shRNA (m) Lentiviral Particles: sc-40617-V.

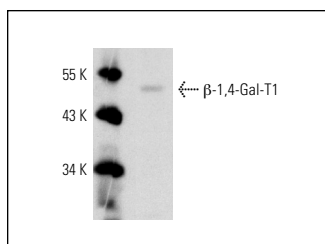
Molecular Weight of β -1,4-Gal-T1: 50/52 kDa.

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

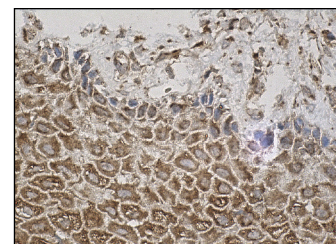
RECOMMENDED SECONDARY REAGENTS

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) 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. 4) Immunohistochemistry: use ImmunoCruz[™]: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



β -1,4-Gal-T1 (N-20): sc-22279. Western blot analysis of β -1,4-Gal-T1 expression in Hep G2 whole cell lysate.



β -1,4-Gal-T1 (N-20): sc-22279. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Zhao, J., et al. 2013. Upregulation of β -1,4-galactosyltransferase I in rat spinal cord with experimental autoimmune encephalomyelitis. *J. Mol. Neurosci.* 49: 437-445.

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.

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 (N-20).