

β-1,4-Gal-T3 (N-18): sc-22283

BACKGROUND

Several oligosaccharide structures and protein glycoconjugate types are found in nature. Homologous glycosyltransferase (GT) gene families catalyze the formation of glycosidic linkages. The β-1,3 galactosyltransferase (β3GalT) gene family encodes a set of type II transmembrane glycoproteins that are catalytically diverse and use different donor substrates (UDP-galactose and UDP-N-acetylglucosamine) and different acceptor sugars (N-acetylglucosamine, galactose, N-acetylgalactosamine) to catalyze the addition of an activated monosaccharide to a terminal lactose. The protein coding sequences for β-1,3-Gal-T genes comprise a single exon and are distantly related to the *Drosophila* Brainiac gene. The β-1,4-galactosyltransferase (β4GalT) gene family encodes type II membrane-bound glycoproteins that show exclusive specificity for the donor substrate, UDP-galactose. β-1,4Gal-T genes transfer galactose in a β-1,4 linkage to similar acceptor sugars; each gene has a distinct function in the biosynthesis of different glycoconjugates and saccharide structures. GTs on the surface of sperm in part mediate gamete adhesion by binding to appropriate carbohydrate substrates in the egg zona pellucida. In several tissues and cell lines, GTs localize to the Golgi complex.

REFERENCES

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- Amado, M., et al. 1999. Identification and characterization of large galactosyltransferase gene families: galactosyltransferases for all functions. *Biochim. Biophys. Acta* 1473: 35-53.
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CHROMOSOMAL LOCATION

Genetic locus: B4GALT3 (human) mapping to 1q23.3; B4galt3 (mouse) mapping to 1 H3.

SOURCE

β-1,4-Gal-T3 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of β-1,4-Gal-T3 of human origin.

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-22283 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-1,4-Gal-T3 (N-18) is recommended for detection of β-1,4-Gal-T3 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-T3 (N-18) is also recommended for detection of β-1,4-Gal-T3 in additional species, including equine, canine, bovine and porcine

Molecular Weight of β-1,4-Gal-T3: 44 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or COLO 320DM cell lysate: sc-2226.

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.