

# $\beta$ -1,3-Gal-T2 (N-16): sc-22271

## BACKGROUND

Several oligosaccharide structures and protein glycoconjugate types are found in nature. Homologous glycosyltransferase (GT) gene families catalyze the formation of glycosidic linkages. The  $\beta$ -1,3 galactosyltransferase ( $\beta$ 3GalT) 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  $\beta$ -1,3-Gal-T genes comprise a single exon and are distantly related to the *Drosophila* Brainiac gene. The  $\beta$ -1,4-galactosyltransferase ( $\beta$ 4GalT) gene family encodes type II membrane-bound glycoproteins that show exclusive specificity for the donor substrate, UDP-galactose.  $\beta$ -1,4Gal-T genes transfer galactose in a  $\beta$ -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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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  $\beta$ 3-galactosyltransferases. Characterization of four members of a UDP-galactose: $\beta$ -N-acetylglucosamine/ $\beta$ -N-acetyl-galactosamine  $\beta$ -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: 60309. 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: B3GALT2 (human) mapping to 1q31.2; B3galt2 (mouse) mapping to 1 F.

## SOURCE

$\beta$ -1,3-Gal-T2 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of  $\beta$ -1,3-Gal-T2 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22271 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\beta$ -1,3-Gal-T2 (N-16) is recommended for detection of  $\beta$ -1,3-Gal-T2 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).

$\beta$ -1,3-Gal-T2 (N-16) is also recommended for detection of  $\beta$ -1,3-Gal-T2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for  $\beta$ -1,3-Gal-T2 siRNA (h): sc-40612,  $\beta$ -1,3-Gal-T2 siRNA (m): sc-40613,  $\beta$ -1,3-Gal-T2 shRNA Plasmid (h): sc-40612-SH,  $\beta$ -1,3-Gal-T2 shRNA Plasmid (m): sc-40613-SH,  $\beta$ -1,3-Gal-T2 shRNA (h) Lentiviral Particles: sc-40612-V and  $\beta$ -1,3-Gal-T2 shRNA (m) Lentiviral Particles: sc-40613-V.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.