SANTA CRUZ BIOTECHNOLOGY, INC.

β-1,3-Gal-TL (C-19): sc-67610

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

β-1,3-Gal-TL (β1,3-glycosyltransferase-like, B3GTL, B3Glc-T or Gal-T) is a ubiquitously expressed O-fucosyltransferase with highest levels of expression in testis and uterus. It is a single pass type II membrane protein that localizes to the endoplasmic reticulum. β-1,3-Gal-TL contributes to O-fucosylglycan elongation on thrombosin type 1 repeat (TSR) domains. It adds a glucose from UDP-glucose to a particular α-linked fucose in correctly folded TSRs, possibly recognizing a specific fold as opposed to amino acid sequence. β-1,3-Gal-TL belongs to the glycosyltransferase 31 family of enzymes. It is conserved from *Caenorhabditis elegans* to humans and shares 28% homology with fringe. It contains a DXD motif that is required for its catalytic activity and a KDEL-like REEL sequence at its C-terminal. Mutations in the gene encoding β-1,3-Gal-TL can result in Peters Plus syndrome.

REFERENCES

1. Heinonen, T.Y., et al. 2003. A novel human glycosyltransferase: primary structure and characterization of the gene and transcripts. Biochem. Biophys. Res. Commun. 309: 166-174.
2. Jacques, C., et al. 2005. Two-step differential expression analysis reveals a new set of genes involved in thyroid oncocytic tumors. J. Clin. Endocrinol. Metab. 90: 2314-2320.
3. Hu, N., et al. 2006. Genome-wide loss of heterozygosity and copy number alteration in esophageal squamous cell carcinoma using the Affymetrix GeneChip Mapping 10 K array. BMC Genomics 7: 299.
4. Luo, Y., et al. 2006. Two distinct pathways for O-fucosylation of epidermal growth factor-like or thrombospondin type 1 repeats. J. Biol. Chem. 281: 9385-9392.
5. Sato, T., et al. 2006. Molecular cloning and characterization of a novel human β1,3-glucosyltransferase, which is localized at the endoplasmic reticulum and glucosylates O-linked fucosylglycan on thrombospondin type 1 repeat domain. Glycobiology 16: 1194-1206.
6. Lesnik Oberstein, S.A., et al. 2006. Peters Plus syndrome is caused by mutations in B3GALTL, a putative glycosyltransferase. Am. J. Hum. Genet. 79: 562-566.
7. Heinonen, T.Y., et al. 2006. Murine ortholog of the novel glycosyltransferase, B3GTL: primary structure, characterization of the gene and transcripts, and expression in tissues. DNA Cell Biol. 25: 465-474.
8. Kozma, K., et al. 2006. Identification and characterization of a β1,3-glucosyltransferase that synthesizes the Glc-β1,3-Fuc disaccharide on thrombospondin type 1 repeats. J. Biol. Chem. 281: 36742-36751.
9. de Ravel, T.J., et al. 2007. What's new in karyotyping? The move towards array comparative genomic hybridisation (CGH). Eur. J. Pediatr. 166: 637-643.

CHROMOSOMAL LOCATION

Genetic locus: B3GALTL (human) mapping to 13q12.3; B3galtl (mouse) mapping to 5 G3.

SOURCE

β-1,3-Gal-TL (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of β-1,3-Gal-TL 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-67610 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-1,3-Gal-TL (C-19) is recommended for detection of β-1,3-Gal-TL 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-1,3-Gal-TL (C-19) is also recommended for detection of β-1,3-Gal-TL in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for β-1,3-Gal-TL siRNA (h): sc-62006, β-1,3-Gal-TL siRNA (m): sc-62007, β-1,3-Gal-TL shRNA Plasmid (h): sc-62006-SH, β-1,3-Gal-TL shRNA Plasmid (m): sc-62007-SH, β-1,3-Gal-TL shRNA (h) Lentiviral Particles: sc-62006-V and β-1,3-Gal-TL shRNA (m) Lentiviral Particles: sc-62007-V.

Molecular Weight of β-1,3-Gal-TL: 57 kDa.

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.

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.