

# $\beta$ -1,3-Gal-TL (C-1): sc-515662

## BACKGROUND

$\beta$ -1,3-Gal-TL ( $\beta$  1,3-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.  $\beta$ -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  $\alpha$ -linked fucose in correctly folded TSRs, possibly recognizing a specific fold as opposed to amino acid sequence.  $\beta$ -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  $\beta$ -1,3-Gal-TL can result in Peters Plus syndrome.

## REFERENCES

- 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.
- Jacques, C., et al. 2005. Two-step differential expression analysis reveals a new set of genes involved in thyroid oncogenic tumors. *J. Clin. Endocrinol. Metab.* 90: 2314-2320.
- 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.
- 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.
- Sato, T., et al. 2006. Molecular cloning and characterization of a novel human  $\beta$ 1,3-glycosyltransferase, which is localized at the endoplasmic reticulum and glucosylates O-linked fucosylglycan on thrombospondin type 1 repeat domain. *Glycobiology* 16: 1194-1206.

## CHROMOSOMAL LOCATION

Genetic locus: B3GLCT (human) mapping to 13q12.3.

## SOURCE

$\beta$ -1,3-Gal-TL (C-1) is a mouse monoclonal antibody raised against amino acids 394-498 mapping at the C-terminus of  $\beta$ -1,3-Gal-TL of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

$\beta$ -1,3-Gal-TL (C-1) is available conjugated to agarose (sc-515662 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515662 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515662 PE), fluorescein (sc-515662 FITC), Alexa Fluor® 488 (sc-515662 AF488), Alexa Fluor® 546 (sc-515662 AF546), Alexa Fluor® 594 (sc-515662 AF594) or Alexa Fluor® 647 (sc-515662 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515662 AF680) or Alexa Fluor® 790 (sc-515662 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

$\beta$ -1,3-Gal-TL (C-1) is recommended for detection of  $\beta$ -1,3-Gal-TL of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

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

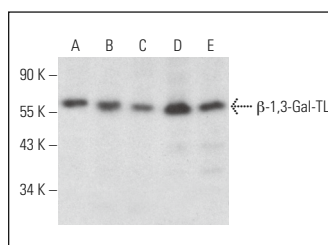
Molecular Weight of  $\beta$ -1,3-Gal-TL: 57 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or HUV-EC-C whole cell lysate: sc-364180.

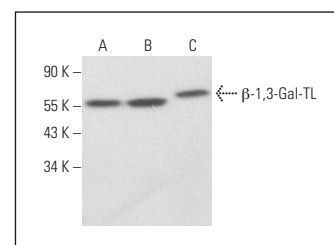
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



$\beta$ -1,3-Gal-TL (C-1): sc-515662. Western blot analysis of  $\beta$ -1,3-Gal-TL expression in NTERA-2 cl.D1 (A), MES-SA/Dx5 (B), Hep G2 (C), Jurkat (D) and HUV-EC-C (E) whole cell lysates.



$\beta$ -1,3-Gal-TL (C-1): sc-515662. Western blot analysis of  $\beta$ -1,3-Gal-TL expression in NTERA-2 cl.D1 (A), SUP-T1 (B) and SW480 (C) whole cell lysates.

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

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