

β-1,4-Gal-T5 (P-18)-R: sc-22290-R

BACKGROUND

β-1,4-galactosyltransferases (β-1,4-Gal-T) are type II membrane-bound glycoproteins that are substrate-specific and function to transfer galactose in a β-1,4 linkage to an acceptor sugar. There are seven members of the β-1, 4-Gal-T family, all of which are directed to the Golgi apparatus through a hydrophobic sequence at the N-terminus. β-1,4-Gal-T5 (β-1,4-galactosyltransferase 5) is a member of the β-1,4-Gal-T protein family and is localized to the *trans*-cisternae of the Golgi stack. Expressed throughout the body, β-1, 4-Gal-T5 is responsible for the synthesis of both N-linked oligosaccharides and the various carbohydrates found in glycolipids. β-1,4-Gal-T5 is thought to preferentially galactosylate oligosaccharides that are upregulated in astrocytoma cells, suggesting a possible role in carcinogenesis.

REFERENCES

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2. Xu, S., et al. 2002. Overexpression of β-1,4-galactosyltransferase V increases the growth of astrocytoma cell line. *J. Exp. Clin. Cancer Res.* 21: 409-414.
3. Sato, T. and Furukawa, K. 2004. Transcriptional regulation of the human β-1,4-galactosyltransferase V gene in cancer cells: essential role of transcription factor Sp1. *J. Biol. Chem.* 279: 39574-39583.
4. Zaidi, S.H., et al. 2005. A family exhibiting arterial tortuosity syndrome displays homozygosity for markers in the arterial tortuosity locus at chromosome 20q13. *Clin. Genet.* 67: 183-188.
5. Jiang, J., et al. 2006. β1,4-galactosyltransferase V functions as a positive growth regulator in glioma. *J. Biol. Chem.* 281: 9482-9489.
6. Jiang, J., et al. 2006. Down-regulation of β1,4-galactosyltransferase V is a critical part of etoposide-induced apoptotic process and could be mediated by decreasing Sp1 levels in human glioma cells. *Glycobiology* 16: 1045-1051.

CHROMOSOMAL LOCATION

Genetic locus: B4GALT5 (human) mapping to 20q13.13; B4galt5 (mouse) mapping to 2 H3.

SOURCE

β-1,4-Gal-T5 (P18)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of β-1,4-Gal-T5 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-22290-R P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-1,4-Gal-T5 (P-18)-R is recommended for detection of β-1,4-Gal-T5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg 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).

β-1,4-Gal-T5 (P-18)-R is also recommended for detection of β-1,4-Gal-T5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for β-1,4-Gal-T5 siRNA (h): sc-72405, β-1,4-Gal-T5 siRNA (m): sc-108225, β-1,4-Gal-T5 shRNA Plasmid (h): sc-72405-SH, β-1,4-Gal-T5 shRNA Plasmid (m): sc-108225-SH, β-1,4-Gal-T5 shRNA (h) Lentiviral Particles: sc-72405-V and β-1,4-Gal-T5 shRNA (m) Lentiviral Particles: sc-108225-V.

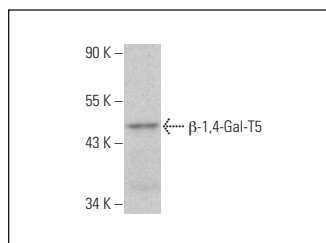
Molecular Weight of β-1,4-Gal-T5: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



β-1,4-Gal-T5 (P-18)-R: sc-22290-R. Western blot analysis of β-1,4-Gal-T5 expression in HeLa whole cell lysate.

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.