

β-1,4-GalNAc-T4 (E-15): sc-166982

BACKGROUND

β-1,4-GalNAc-T4 (β-1,4-N-acetyl-galactosaminyl transferase 4), also known as N-acetyl-β-glucosaminyl-glycoprotein 4-β-N-acetylgalactosaminyltransferase 1 or B4GALNT4, is a 1,039 amino acid protein belonging to the chondroitin N-acetylgalactosaminyltransferase family. Encoded by a gene that maps to human chromosome 11p15.5, β-1,4-GalNAc-T4 is highly expressed in ovary and in adult and fetal brain. β-1,4-GalNAc-T4 is also expressed in fetal kidney and lung, and exhibits subcellular localization in Golgi apparatus. β-1,4-GalNAc-T4 spans cell membranes singularly, with its N-terminus on the cytoplasmic side of the membrane. Located close to the N-terminus, the transmembrane domain of β-1,4-GalNAc-T4 functions as an anchor. β-1,4-GalNAc-T4 participates in N-acetyl-β-glucosaminyl-glycoprotein 4-β-N-acetylgalactosaminyltransferase activities.

REFERENCES

1. Nagata, Y., et al. 1994. Expression cloning of β 1,4 N-acetylgalactosaminyltransferase cDNAs that determine the expression of GM2 and GD2 gangliosides. *J. Biol. Chem.* 269: 7045.
2. Gotoh, M., et al. 2004. Molecular cloning and characterization of β1,4-N-acetylgalactosaminyltransferases IV synthesizing N,N'-diacetylactosedi-amine. *FEBS Lett.* 562: 134-140.
3. Togayachi, A., et al. 2006. Comprehensive enzymatic characterization of glycosyltransferases with a β3GT or β4GT motif. *Meth. Enzymol.* 416: 91-102.
4. Cheng, S.L., et al. 2007. Toxicogenomics of A375 human malignant melanoma cells treated with arbutin. *J. Biomed. Sci.* 14: 87-105.
5. Roeckel, N., et al. 2009. High frequency of LMAN1 abnormalities in colorectal tumors with microsatellite instability. *Cancer Res.* 69: 292-299.
6. Ito, H., et al. 2009. Strategy for glycoproteomics: identification of glyco-alteration using multiple glycan profiling tools. *J. Proteome Res.* 8: 1358-1367.
7. Fukushima, K., et al. 2010. α1,2-Fucosylated and β-N-acetylgalactosaminylated prostate-specific antigen as an efficient marker of prostatic cancer. *Glycobiology* 20: 452-460.

CHROMOSOMAL LOCATION

Genetic locus: B4GALNT4 (human) mapping to 11p15.5; B4galnt4 (mouse) mapping to 7 F5.

SOURCE

β-1,4-GalNAc-T4 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β-1,4-GalNAc-T4 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-166982 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-1,4-GalNAc-T4 (E-15) is recommended for detection of β-1,4-GalNAc-T4 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); non cross-reactive with other β-1,4-GalNAc-T family members.

β-1,4-GalNAc-T4 (E-15) is also recommended for detection of β-1,4-GalNAc-T4 in additional species, including equine and avian.

Suitable for use as control antibody for β-1,4-GalNAc-T4 siRNA (h): sc-97066, β-1,4-GalNAc-T4 siRNA (m): sc-108231, β-1,4-GalNAc-T4 shRNA Plasmid (h): sc-97066-SH, β-1,4-GalNAc-T4 shRNA Plasmid (m): sc-108231-SH, β-1,4-GalNAc-T4 shRNA (h) Lentiviral Particles: sc-97066-V and β-1,4-GalNAc-T4 shRNA (m) Lentiviral Particles: sc-108231-V.

Molecular Weight of β-1,4-GalNAc-T4: 117 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.