SANTA CRUZ BIOTECHNOLOGY, INC.

GalNAc-T14 (C-5): sc-393056

BACKGROUND

The UDP-N-acetyl-α-D-galactosamine:polypeptide N-acetylgalactosaminyl-transferase (GalNAc-T) family of enzymes are substrate-specific proteins that catalyze the transfer of GalNAc (N-acetylgalactosaminyl) to serine and threonine residues on various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. GalNAc-T14 (UDP-N-acetyl-α-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 14) is a 552 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and contains one Ricin B-type lectin domain. Existing as multiple alternatively spliced isoforms that are highly expressed in fetal and adult kidney, GalNAc-T14 uses calcium and manganese as cofactors to catalyze the initial reaction in O-linked oligosaccharide biosynthesis, namely the transfer of GalNAc to select residues to target proteins.

REFERENCES

1. Elhammer, A.P., et al. 1999. The acceptor specificity of UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferases. Glycoconj. J. 16: 171-180.
2. Wang, H., et al. 2003. Cloning and characterization of a novel UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferase, pp-GalNAc-T14. Biochem. Biophys. Res. Commun. 300: 738-744.
3. Ten Hagen, K.G., et al. 2003. All in the family: the UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferases. Glycobiology 13: 1R-16R.
4. Wu, C., et al. 2007. N-Acetylgalactosaminyltransferase 14, a novel Insulin-like growth factor binding protein-3 binding partner. Biochem. Biophys. Res. Commun. 357: 360-365.
5. Wagner, K.W., et al. 2007. Death-receptor O-glycosylation controls tumor-cell sensitivity to the proapoptotic ligand Apo2L/TRAIL. Nat. Med. 13: 1070-1077.
6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608225. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: GALNT14 (human) mapping to 2p23.1.

SOURCE

GalNAc-T14 (C-5) is a mouse monoclonal antibody raised against amino acids 411-552 mapping at the C-terminus of GalNAc-T14 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

GalNAc-T14 (C-5) is recommended for detection of GalNAc-T14 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for GalNAc-T14 siRNA (h): sc-75092, GalNAc-T14 shRNA Plasmid (h): sc-75092-SH and GalNAc-T14 shRNA (h) Lentiviral Particles: sc-75092-V.

Molecular Weight (predicted) of GalNAc-T14: 64 kDa.

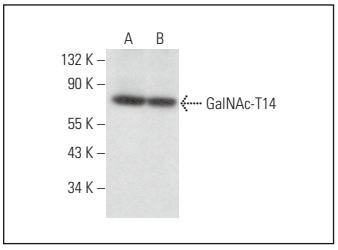
Molecular Weight (observed) of GalNAc-T14: 50 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, ACHN whole cell lysate: sc-364365 or GalNAc-T14 (h): 293T Lysate: sc-111179.

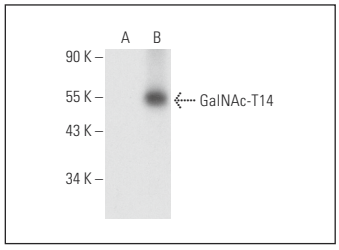
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



GalNAc-T14 (C-5): sc-393056. Western blot analysis of GalNAc-T14 expression in Caki-1 (**A**) and ACHN (**B**) whole cell lysates.



GalNAc-T14 (C-5): sc-393056. Western blot analysis of GalNAc-T14 expression in non-transfected: sc-117752 (**A**) and human GalNAc-T14 transfected: sc-111179 (**B**) 293T whole cell lysates.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.