SANTA CRUZ BIOTECHNOLOGY, INC.

GalNAc-TL5 (F-5): sc-398569

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 onto various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. GalNAc-TL5 (polypeptide GalNAc transferase 15), also known as GALNTL5, is a 443 amino acid single-pass type II membrane protein belonging to the glycosyltransferase 2 family and GalNAc-T subfamily. Localizing to Golgi apparatus, GalNAc-TL4 utilizes manganese and calcium as cofactors and is expressed in testis. GalNAc-TL5 may assist with the transfer of an N-acetyl-D-galactosamine residue to a serine or threonine residue on protein receptors and likely catalyzes the initial reaction in O-linked oligosaccharide biosynthesis. Unlike other members of the GalNAc-T subfamily, GalNAc-TL5 does not contain a C-terminal ricin B-type lectin domain. GalNAc-TL5 contains two conserved domains located in its glycosyltransferase region. The N-terminal domain, also known as domain A or GT1 motif, may be involved in manganese coordination and substrate binding while the C-terminal domain, also known as domain B or Gal/GalNAc-T motif, is likely involved in catalytic reactions and UDP-Gal binding. GalNAc-TL5 exists as two alternatively spliced isoforms.

REFERENCES

1. Gooi, H.C., et al. 1985. Differing reactions of monoclonal anti-A antibodies with oligosaccharides related to blood group A. J. Biol. Chem. 260: 13218-13224.
2. Hayes, B.K., et al. 1993. The biosynthesis of oligosaccharides in intact Golgi preparations from rat liver. Analysis of N-linked and O-linked glycans labeled by UDP-[6-^{3}H]N-acetylgalactosamine. J. Biol. Chem. 268: 16170-16178.

CHROMOSOMAL LOCATION

Genetic locus: GALNTL5 (human) mapping to 7q36.1; Galntl5 (mouse) mapping to 5 A3.

SOURCE

GalNAc-TL5 (F-5) is a mouse monoclonal antibody raised against amino acids 238-284 mapping within an internal region of GalNAc-TL5 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GalNAc-TL5 (F-5) is available conjugated to agarose (sc-398569 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398569 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398569 PE), fluorescein (sc-398569 FITC), Alexa Fluor® 488 (sc-398569 AF488), Alexa Fluor® 546 (sc-398569 AF546), Alexa Fluor® 594 (sc-398569 AF594) or Alexa Fluor® 647 (sc-398569 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398569 AF680) or Alexa Fluor® 790 (sc-398569 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

GalNAc-TL5 (F-5) is recommended for detection of GalNAc-TL5 of mouse, rat and 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-TL5 siRNA (h): sc-89342, GalNAc-TL5 siRNA (m): sc-145316, GalNAc-TL5 shRNA Plasmid (h): sc-89342-SH, GalNAc-TL5 shRNA Plasmid (m): sc-145316-SH, GalNAc-TL5 shRNA (h) Lentiviral Particles: sc-89342-V and GalNAc-TL5 shRNA (m) Lentiviral Particles: sc-145316-V.

Molecular Weight of GalNAc-TL5 isoform 1: 51 kDa.

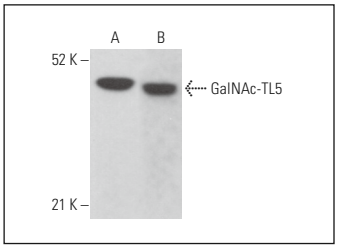
Molecular Weight of GalNAc-TL5 isoform 2: 15 kDa.

Positive Controls: F9 cell lysate: sc-2245 or ARPE-19 whole cell lysate: sc-364357.

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-TL5 (F-5): sc-398569. Western blot analysis of GalNAc-TL5 expression in F9 (**A**) and ARPE-19 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Radziejewska, I., et al. 2021. Anti-cancer potential of afzelin towards AGS gastric cancer cells. Pharmaceuticals 14: 973.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.