SANTA CRUZ BIOTECHNOLOGY, INC.

GalNAc-T5 (K-19): sc-68337

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-acetylgalactosamine) to serine and threonine residues onto various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. GalNAc-T5 (polypeptide N-acetylgalactosaminyltransferase 5), also known as UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase 5, is a 940 amino acid protein that displays enzymatic activity toward EA2 peptide substrate with weaker activity toward Muc2 or Muc 1b substrates. Its N-terminal domain is involved in substrate binding and manganese coordination, while the C-terminal domain is involved in UDP-Gal binding and catalytic reaction. EXT2 directly interacts with GalNAc-T5, suggesting that these proteins may corroborate in glycosaminoglycan synthesis.

REFERENCES

1. Elhammer, A.P., et al. 1999. The acceptor specificity of UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferases. Glycoconj. J. 16: 171-180.
2. Simmons, A.D., et al. 1999. A direct interaction between EXT proteins and glycosyltransferases is defective in hereditary multiple exostoses. Hum. Mol. Genet. 8: 2155-2164.
3. McCormick, C., et al 2000. The putative tumor suppressors EXT1 and EXT2 form a stable complex that accumulates in the Golgi apparatus and catalyzes the synthesis of heparan sulfate. Proc. Natl. Acad. Sci. USA 97: 668-673.
4. Ten Hagen, K.G., et al. 2003. All in the family: the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferases. Glycobiology 13: 1R-16R.
5. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. Science 314: 268-274.
6. Tarp, M.A., et al. 2008. Mucin-type O-glycosylation and its potential use in drug and vaccine development. Biochim. Biophys. Acta 1780: 546-563.

CHROMOSOMAL LOCATION

Genetic locus: GALNT5 (human) mapping to 2q24.1; Galnt5 (mouse) mapping to 2 C1.1.

SOURCE

GalNAc-T5 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GalNAc-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-68337 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GalNAc-T5 (K-19) is recommended for detection of GalNAc-T5 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).

GalNAc-T5 (K-19) is also recommended for detection of GalNAc-T5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GalNAc-T5 siRNA (h): sc-75098, GalNAc-T5 siRNA (m): sc-75099, GalNAc-T5 shRNA Plasmid (h): sc-75098-SH, GalNAc-T5 shRNA Plasmid (m): sc-75099-SH, GalNAc-T5 shRNA (h) Lentiviral Particles: sc-75098-V and GalNAc-T5 shRNA (m) Lentiviral Particles: sc-75099-V.

Molecular Weight of GalNAc-T5: 106 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.

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.