

# β3Gn-T3 (K-14): sc-131364

## BACKGROUND

A family of human β 1,3-galactosyltransferases (β3Gn-Ts) consists of nine members (β3Gn-T1, -T2, -T3, -T4, -T5, -T6, -T7, -T8 and -T9). β3Gn-T1 catalyzes the formation of type 1 oligosaccharides. β3Gn-T2 converts lacto-N-triose II into lacto-N-tetraose and lacto-N-neotetraose and can form a heterodimer with β3Gn-T8, which, as a complex, exhibits higher enzymatic activity. Unlike the ubiquitously expressed β3Gn-T2, β3Gn-T3 is specifically expressed in colon, jejunum, stomach, esophagus, placenta and trachea, and β3Gn-T4 is mainly expressed in brain. β3Gn-T5 is essential for the biosynthesis of Lewis antigens and may play a role in gastric cancer as a result of its participation in chronic *H. pylori* infection. β3Gn-T6 may be a useful marker for distinguishing between benign adenomas and premalignant lesions. β3Gn-T7 acts as an anti-migration factor for a lung cancer cell line.

## REFERENCES

- Shiraishi, N., et al. 2001. Identification and characterization of three novel β 1,3-N-acetylglucosaminyltransferases structurally related to the β 1,3-galactosyltransferase family. *J. Biol. Chem.* 276: 3498-3507.
- Seko, A., et al. 2004. β1,3-N-Acetylglucosaminyltransferase-7 (β3Gn-T7) acts efficiently on keratan sulfate-related glycans. *FEBS Lett.* 556: 216-220.
- Iwai, T., et al. 2005. Core 3 synthase is down-regulated in colon carcinoma and profoundly suppresses the metastatic potential of carcinoma cells. *Proc. Natl. Acad. Sci. USA* 102: 4572-4577.
- Deo, V.K., et al. 2006. Multiple co-transfection and co-expression of human β-1,3-N-acetylglucosaminyltransferase with human calreticulin chaperone cDNA in a single step in insect cells. *Biotechnol. Appl. Biochem.* 43: 129-135.
- Seko, A., et al. 2008. Activation of β1,3-N-acetylglucosaminyltransferase-2 (β3Gn-T2) by β3Gn-T8: Possible involvement of β3Gn-T8 in increasing poly-N-acetylglucosamine chains in differentiated HL-60 cells. *J. Biol. Chem.* 283: 33094-33100.
- Marcos, N.T., et al. 2008. *Helicobacter pylori* induces β3GnT5 in human gastric cell lines, modulating expression of the SabA ligand sialyl-Lewis x. *J. Clin. Invest.* 118: 2325-2336.

## CHROMOSOMAL LOCATION

Genetic locus: B3GNT3 (human) mapping to 19p13.11.

## SOURCE

β3Gn-T3 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β3Gn-T3 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-131364 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

β3Gn-T3 (K-14) is recommended for detection of β3Gn-T3 of 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 β3Gn-T family members.

β3Gn-T3 (K-14) is also recommended for detection of β3Gn-T3 in additional species, including equine.

Suitable for use as control antibody for β3Gn-T3 siRNA (h): sc-97287, β3Gn-T3 shRNA Plasmid (h): sc-97287-SH and β3Gn-T3 shRNA (h) Lentiviral Particles: sc-97287-V.

Molecular Weight of β3Gn-T3: 43 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](http://www.scbt.com) or our catalog for detailed protocols and support products.