

# $\beta$ -1,4-GalNAc-T (Q-20): sc-87539

## BACKGROUND

The chondroitin N-acetylgalactosaminyltransferase family includes  $\beta$ -1,4-GalNAc-T,  $\beta$ -1,4-GalNAc-T2,  $\beta$ -1,4-GalNAc-T3 and  $\beta$ -1,4-GalNAc-T4. The  $\beta$ -1,4-GalNAc-T protein consists of a short N-terminal residue, a transmembrane region and a long C-terminal residue, which includes a catalytic domain and localizes to the Golgi apparatus.  $\beta$ -1,4-GalNAc-T utilizes simple ganglioside GM3 as a substrate for more complex gangliosides GM2, GM1 and GD1 $\alpha$ .  $\beta$ -1,4-GalNAc-T is expressed in normal brain tissues and in various malignant transformed cells, such as malignant melanoma, neuroblastoma and adult T cell leukemia. Mice lacking the  $\beta$ -1,4-GalNAc-T protein develop significant and progressive behavioral neuropathies, including deficits in reflexes, strength, coordination and balance.  $\beta$ -1,4-GalNAc-T is a potential molecular marker for detecting melanoma cells and monitoring tumor progression.

## REFERENCES

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- Furukawa, K., et al. 1996. Genomic organization and chromosomal assignment of the human  $\beta$ 1, 4-N-acetylgalactosaminyltransferase gene. Identification of multiple transcription units. *J. Biol. Chem.* 271: 20836-20844.
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- Chiavegatto, S., et al. 2000. A functional role for complex gangliosides: motor deficits in GM2/GD2 synthase knockout mice. *Exp. Neurol.* 166: 227-234.
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## CHROMOSOMAL LOCATION

Genetic locus: CSGALNACT1 (human) mapping to 8p21.3; Csgalnact1 (mouse) mapping to 8 B3.3.

## SOURCE

$\beta$ -1,4-GalNAc-T (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of  $\beta$ -1,4-GalNAc-T of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87539 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\beta$ -1,4-GalNAc-T (Q-20) is recommended for detection of  $\beta$ -1,4-GalNAc-T 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  $\beta$ -1,4-GalNAc-T-3.

$\beta$ -1,4-GalNAc-T (Q-20) is also recommended for detection of  $\beta$ -1,4-GalNAc-T in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for  $\beta$ -1,4-GalNAc-T siRNA (h): sc-77837,  $\beta$ -1,4-GalNAc-T siRNA (m): sc-108228,  $\beta$ -1,4-GalNAc-T shRNA Plasmid (h): sc-77837-SH,  $\beta$ -1,4-GalNAc-T shRNA Plasmid (m): sc-108228-SH,  $\beta$ -1,4-GalNAc-T shRNA (h) Lentiviral Particles: sc-77837-V and  $\beta$ -1,4-GalNAc-T shRNA (m) Lentiviral Particles: sc-108228-V.

Molecular Weight of  $\beta$ -1,4-GalNAc-T: 61 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.