

GlcAT-I (C-12): sc-240515

BACKGROUND

GlcAT-I (glucuronosyltransferase-I), also known as β -1,3-glucuronyltransferase 3 (B3GAT3), is a 335 amino acid single-pass type II membrane protein belonging to the glycosyltransferase 43 family. By using manganese as a cofactor, GlcAT-I catalyzes the formation of the glycosaminoglycan-protein linkage by way of a glucuronyl transfer reaction that is present in the final step of the biosynthesis of the linkage region of proteoglycans. Present as a disulfide-linked homodimer, GlcAT-I shows strict specificity for Gal- β -1,3-Gal- β -1,4-Xyl. Ubiquitously expressed, GlcAT-I is N-glycosylated and is localized to the Golgi apparatus membrane.

REFERENCES

1. Kitagawa, H., et al. 1998. Molecular cloning and expression of glucuronyltransferase I involved in the biosynthesis of the glycosaminoglycan-protein linkage region of proteoglycans. *J. Biol. Chem.* 273: 6615-6618.
2. Tone, Y., et al. 1999. Characterization of recombinant human glucuronyltransferase I involved in the biosynthesis of the glycosaminoglycan-protein linkage region of proteoglycans. *FEBS Lett.* 459: 415-420.
3. Ouzzine, M., et al. 2000. Structure/function of the human Ga1 β 1,3-glucuronosyltransferase. Dimerization and functional activity are mediated by two crucial cysteine residues. *J. Biol. Chem.* 275: 28254-28260.
4. Pedersen, L.C., et al. 2000. Heparan/chondroitin sulfate biosynthesis. Structure and mechanism of human glucuronyltransferase I. *J. Biol. Chem.* 275: 34580-34585.
5. Gulberti, S., et al. 2003. The functional glycosyltransferase signature sequence of the human β 1,3-glucuronosyltransferase is a XDD motif. *J. Biol. Chem.* 278: 32219-32226.
6. Venkatesan, N., et al. 2004. Stimulation of proteoglycan synthesis by glucuronosyltransferase-I gene delivery: a strategy to promote cartilage repair. *Proc. Natl. Acad. Sci. USA* 101: 18087-18092.

CHROMOSOMAL LOCATION

Genetic locus: B3GAT3 (human) mapping to 11q12.3; B3gat3 (mouse) mapping to 19 A.

SOURCE

GlcAT-I (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GlcAT-I of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-240515 P, (100 μ g 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

GlcAT-I (C-12) is recommended for detection of GlcAT-I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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); non cross-reactive with GlcAT-S.

GlcAT-I (C-12) is also recommended for detection of GlcAT-I in additional species, including equine, canine and porcine.

Suitable for use as control antibody for GlcAT-I siRNA (h): sc-96989, GlcAT-I siRNA (m): sc-145416, GlcAT-I shRNA Plasmid (h): sc-96989-SH, GlcAT-I shRNA Plasmid (m): sc-145416-SH, GlcAT-I shRNA (h) Lentiviral Particles: sc-96989-V and GlcAT-I shRNA (m) Lentiviral Particles: sc-145416-V.

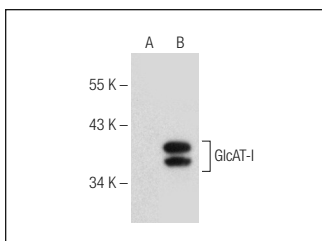
Molecular Weight of GlcAT-I: 37 kDa.

Positive Controls: GlcAT-I (m): 293T Lysate: sc-120495.

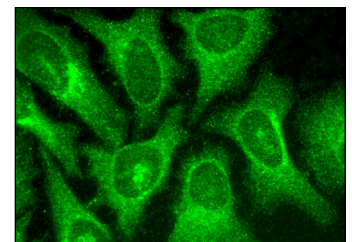
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GlcAT-I (C-12): sc-240515. Western blot analysis of GlcAT-I expression in non-transfected: sc-117752 (A) and mouse GlcAT-I transfected: sc-120495 (B) 293T whole cell lysates.



GlcAT-I (C-12): sc-240515. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **GlcAT-I (D-7): sc-390475** or **GlcAT-I (H-5): sc-390526**, our highly recommended monoclonal alternatives to GlcAT-I (C-12).