

GNA1 (C-10): sc-374520

BACKGROUND

Glucosamine 6-phosphate N-acetyltransferase (GNA1), also designated phosphoglucosamine transacetylase or phosphoglucosamine acetylase, belongs to the GNA1 subfamily of the larger acetyltransferase family of proteins. GNA1, a peripheral membrane protein containing one N-acetyltransferase domain, is expressed in the colon and maps to cyto band 14q22.1. The protein localizes to the Golgi apparatus and the endosome. It is important for UDP-GlcNAc biosynthesis pathway. GNA1 catalyzes the synthesis of GlcNAc6P from AcCoA and GlcN6P, a step in the UDP-GlcNAc6P formation pathway.

REFERENCES

- Boehmelt, G., et al. 2000. Cloning and characterization of the murine glucosamine-6-phosphate acetyltransferase EMeg32. Differential expression and intracellular membrane association. *J. Biol. Chem.* 275: 12821-12832.
- Boehmelt, G., et al. 2000. Decreased UDP-GlcNAc levels abrogate proliferation control in EMeg32-deficient cells. *EMBO J.* 19: 5092-5104.
- Mio, T., et al. 2000. Reduced virulence of *Candida albicans* mutants lacking the GNA1 gene encoding glucosamine-6-phosphate acetyltransferase. *Microbiology* 146: 1753-1758.
- Peneff, C., et al. 2001. The crystal structures of Apo and light on the catalytic mechanism of an amino-sugar N-acetyltransferase. *J. Biol. Chem.* 276: 16328-16334.
- Jiang, H., et al. 2005. A novel short-root gene encodes a glucosamine-6-phosphate acetyltransferase required for maintaining normal root cell shape in rice. *Plant Physiol.* 138: 232-242.

CHROMOSOMAL LOCATION

Genetic locus: GNPAT1 (human) mapping to 14q22.1; Gnpnat1 (mouse) mapping to 14 C1.

SOURCE

GNA1 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-43 near the N-terminus of GNA1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

GNA1 (C-10) is recommended for detection of GNA1 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).

GNA1 (C-10) is also recommended for detection of GNA1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GNA1 siRNA (h): sc-60709, GNA1 siRNA (m): sc-60710, GNA1 shRNA Plasmid (h): sc-60709-SH, GNA1 shRNA Plasmid (m): sc-60710-SH, GNA1 shRNA (h) Lentiviral Particles: sc-60709-V and GNA1 shRNA (m) Lentiviral Particles: sc-60710-V.

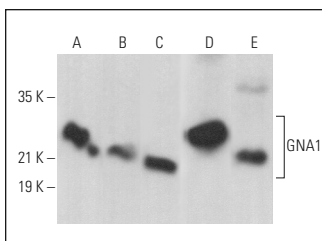
Molecular Weight of GNA1: 23 kDa.

Positive Controls: GNA1 (m): 293T Lysate: sc-120547, mouse liver extract: sc-2256 or rat liver extract: sc-2395.

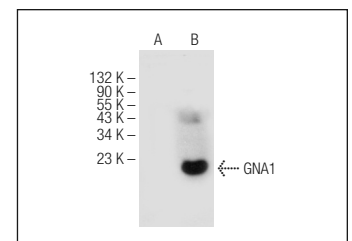
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



GNA1 (C-10): sc-374520. Western blot analysis of GNA1 expression in Hep G2 (A), RAW 264.7 (B) and KNRK (C) whole cell lysates and mouse liver (D) and rat liver (E) tissue extracts.



GNA1 (C-10): sc-374520. Western blot analysis of GNA1 expression in non-transfected: sc-117752 (A) and mouse GNA1 transfected: sc-120547 (B) 293T whole cell lysates.

RESEARCH USE

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