

# GNA1 (A-3): sc-374519

## 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 cytoband 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

GNA1 (A-3) 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 IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GNA1 (A-3) is available conjugated to agarose (sc-374519 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374519 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374519 PE), fluorescein (sc-374519 FITC), Alexa Fluor® 488 (sc-374519 AF488), Alexa Fluor® 546 (sc-374519 AF546), Alexa Fluor® 594 (sc-374519 AF594) or Alexa Fluor® 647 (sc-374519 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374519 AF680) or Alexa Fluor® 790 (sc-374519 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374519 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

GNA1 (A-3) 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 (A-3) 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.

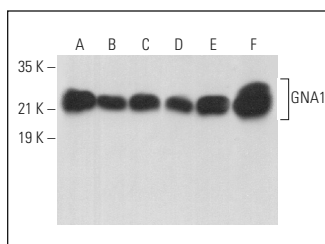
Molecular Weight of GNA1: 23 kDa.

Positive Controls: GNA1 (m): 293T Lysate: sc-120547, Hep G2 cell lysate: sc-2227 or Caki-1 cell lysate: sc-2224.

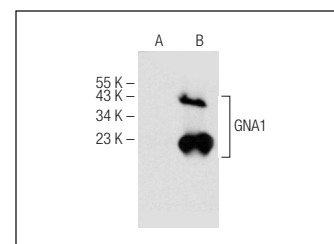
## RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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 (A-3): sc-374519. Western blot analysis of GNA1 expression in Hep G2 (A), Caki-1 (B), KNRK (C), PC-12 (D) and RAW 264.7 (E) whole cell lysates and mouse liver tissue extract (F).



GNA1 (A-3): sc-374519. Western blot analysis of GNA1 expression in non-transfected: sc-117752 (A) and mouse GNA1 transfected: sc-120547 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Qin, L., et al. 2019. Ginsenoside Rb1 improved diabetic cardiomyopathy through regulating calcium signaling by alleviating protein O-GlcNAcylation. *J. Agric. Food Chem.* 67: 14074-14085.
- Feinberg, D., et al. 2022. Inhibition of O-GlcNAcylation decreases the cytotoxic function of natural killer cells. *Front. Immunol.* 13: 841299.

## 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) for detailed protocols and support products.

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