SANTA CRUZ BIOTECHNOLOGY, INC.

GNL2 (B-10): sc-376732

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GNL2 (also known as autoantigen NGP-1, NOG2 or nucleolar GTP-binding protein 2) is a nucleolar guanasine-triphosphate binding protein that is ubiquitously expressed at low levels in almost all tissues. GNL2 is involved in the crucial process of trafficking proteins out of the nucleus. Specifically, it is a GTPase that interacts with the 60s preribosomal subunit in the nucleus and facilitates export of the subunit into the cytoplasm. GTPases are responsible for the hydrolysis of GTP by way of a protein region dubbed the G domain. GTPases are often involved in the translocating proteins through membranes gleaning energy for the activity by hydrolizing GTP. GNL2 shares G domain homology and some functionality with nucleostemin (GNL3), another nuclear GTPase. Highest expression of GNL2 is found in testis.

REFERENCES

1. Racevskis, J., et al. 1996. Cloning of a novel nucleolar guanosine 5'-triphosphate binding protein autoantigen from a breast tumor. Cell Growth Differ. 7: 271-280.
2. Stage-Zimmermann, T., et al. 2000. Factors affecting nuclear export of the 60S ribosomal subunit *in vivo*. Mol. Biol. Cell 11: 3777-3789.
3. Saveanu, C., et al. 2001. Nog2p, a putative GTPase associated with pre-60S subunits and required for late 60S maturation steps. EMBO J. 20: 6475-6484.
4. Bassler, J., et al. 2001. Identification of a 60S preribosomal particle that is closely linked to nuclear export. Mol. Cell 8: 517-529.
5. De Angelis, P.M., et al. 2006. Cellular response to 5-fluorouracil (5-FU) in 5-FU-resistant colon cancer cell lines during treatment and recovery. Mol. Cancer 5: 20.
6. Du, X., et al. 2006. The homologous putative GTPases Grn1p from fission yeast and the human GNL3L are required for growth and play a role in processing of nucleolar pre-rRNA. Mol. Biol. Cell 17: 460-474.
7. Rao, M.R., et al. 2006. A novel lysine-rich domain and GTP binding motifs regulate the nucleolar retention of human guanine nucleotide binding protein, GNL3L. J. Mol. Biol. 364: 637-654.
8. Yasumoto, H., et al. 2007. GNL3L inhibits activity of estrogen-related receptor γ by competing for coactivator binding. J. Cell Sci. 120: 2532-2543.

CHROMOSOMAL LOCATION

Genetic locus: GNL2 (human) mapping to 1p34.3; Gnl2 (mouse) mapping to 4 D2.2.

SOURCE

GNL2 (B-10) is a mouse monoclonal antibody raised against amino acids 42-225 mapping near the N-terminus of GNL2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GNL2 (B-10) is recommended for detection of GNL2 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).

Suitable for use as control antibody for GNL2 siRNA (h): sc-62685, GNL2 siRNA (m): sc-62686, GNL2 shRNA Plasmid (h): sc-62685-SH, GNL2 shRNA Plasmid (m): sc-62686-SH, GNL2 shRNA (h) Lentiviral Particles: sc-62685-V and GNL2 shRNA (m) Lentiviral Particles: sc-62686-V.

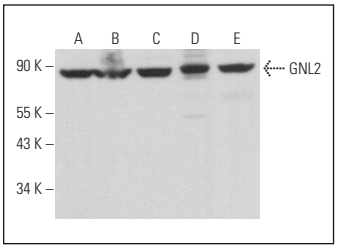
Molecular Weight of GNL2: 84 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NTERA-2 cl.D1 whole cell lysate: sc-364181 or K-562 whole cell lysate: sc-2203.

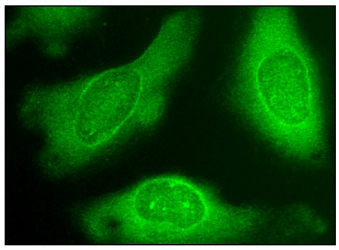
RECOMMENDED SUPPORT REAGENTS

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



GNL2 (B-10): sc-376732. Western blot analysis of GNL2 expression in Jurkat (**A**), NTERA-2 cl.D1 (**B**), K-562 (**C**) and NIH/3T3 (**D**) whole cell lysates and rat testis tissue extract (**E**).



GNL2 (B-10): sc-376732. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Lim, C., et al. 2019. Resistance exercise-induced changes in muscle phenotype are load dependent. Med. Sci. Sports Exerc. 51: 2578-2585.

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.