

GNL2 (E-2): sc-514701

BACKGROUND

GNL2 (also known as autoantigen NGP-1, NOG2 or nucleolar GTP-binding protein 2) is a nucleolar guanine-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 glean energy for the activity by hydrolyzing 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.

CHROMOSOMAL LOCATION

Genetic locus: GNL2 (human) mapping to 1p34.3.

SOURCE

GNL2 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 691-710 at the C-terminus of GNL2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-514701 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GNL2 (E-2) is recommended for detection of GNL2 of 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 shRNA Plasmid (h): sc-62685-SH and GNL2 shRNA (h) Lentiviral Particles: sc-62685-V.

Molecular Weight of GNL2: 84 kDa.

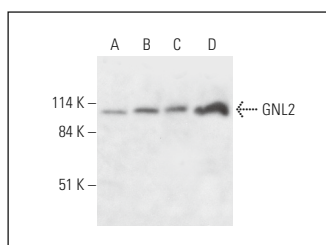
Positive Controls: Jurkat whole cell lysate: sc-2204, NTERA-2 cl.D1 whole cell lysate: sc-364181 or Jurkat nuclear extract: sc-2132.

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 (E-2): sc-514701. Western blot analysis of GNL2 expression in Jurkat (A), WiDr (B) and NTERA-2 cl.D1 (C) whole cell lysates and Jurkat nuclear extract (D).

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 for detailed protocols and support products.