SANTA CRUZ BIOTECHNOLOGY, INC.

# GNL2 (B-8): sc-514050

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.


## CHROMOSOMAL LOCATION

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

## SOURCE

GNL2 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 432-459 within an internal region of GNL2 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GNL2 (B-8) is available conjugated to agarose (sc-514050 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514050 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514050 PE), fluorescein (sc-514050 FITC), Alexa Fluor® 488 (sc-514050 AF488), Alexa Fluor® 546 (sc-514050 AF546), Alexa Fluor® 594 (sc-514050 AF594) or Alexa Fluor® 647 (sc-514050 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514050 AF680) or Alexa Fluor® 790 (sc-514050 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514050 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).



## APPLICATIONS

GNL2 (B-8) 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.

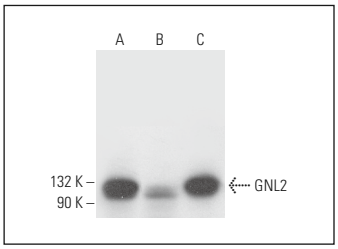
Molecular Weight of GNL2: 84 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, WiDr cell lysate: sc-24779 or HeLa whole cell lysate: sc-2200.

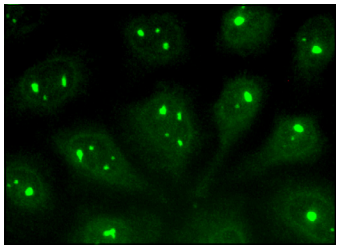
## RECOMMENDED SUPPORT REAGENTS

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-8): sc-514050. Western blot analysis of GNL2 expression in Jurkat (**A**), WiDr (**B**) and HeLa (**C**) whole cell lysates.



GNL2 (B-8): sc-514050. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar localization.

## SELECT PRODUCT CITATIONS


1. Nakamura, K., et al. 2021. Functional analysis of the 1p34.3 risk locus implicates GNL2 in high-grade serous ovarian cancer. Am. J. Hum. Genet. 109: 116-135.


## 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.