

GNL1 (H-9): sc-514362

BACKGROUND

GNL1 (guanine nucleotide-binding protein-like 1) is a nuclear protein that likely acts as a regulator of the histocompatibility cluster. GNL1 and MMR1, the murine homolog, are localized within or close to the MHC class I region and belong to the MMR1/HSR1 GTP-binding protein family. GTPases, such as GNL1, from the MMR1/HSR1 GTP-binding protein subfamily are circularly rearranged G-motifs that play a critical role in maintaining normal cell growth. Deletion of these genes results in severe growth defects with a marked reduction in mature rRNA species and a concomitant accumulation of the 35S pre-rRNA transcript. Deletion also causes the ribosomal protein Rpl25a to fail exportation from the nucleolus. Deletion of any of the G-domain motifs will result in a null phenotype and nuclear/nucleolar localization that lacks the nucleolar export of preribosomes and is accompanied by a distortion of the nucleolar structure. Upon DNA damage GNL1 is phosphorylated by a kinase, possibly Atm or ATR.

REFERENCES

1. Sulakhe, P.V., et al. 1990. MgCl₂-sensitive and Gpp(NH)p-sensitive antagonist binding states of rat heart muscarinic receptors: preferential detection at ambient temperature assay and location in two subcellular fractions. *Mol. Cell. Biochem.* 94: 133-146.
2. Vernet, C., et al. 1994. Structure and evolution of a member of a new subfamily of GTP-binding proteins mapping to the human MHC class I region. *Mamm. Genome* 5: 100-105.
3. Vernet, C., et al. 1994. Evolutionary study of multigenic families mapping close to the human MHC class I region. *J. Mol. Evol.* 37: 600-612.

CHROMOSOMAL LOCATION

Genetic locus: GNL1 (human) mapping to 6p21.33.

SOURCE

GNL1 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 163-185 within an internal region of GNL1 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.

GNL1 (H-9) is available conjugated to agarose (sc-514362 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514362 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514362 PE), fluorescein (sc-514362 FITC), Alexa Fluor[®] 488 (sc-514362 AF488), Alexa Fluor[®] 546 (sc-514362 AF546), Alexa Fluor[®] 594 (sc-514362 AF594) or Alexa Fluor[®] 647 (sc-514362 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514362 AF680) or Alexa Fluor[®] 790 (sc-514362 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514362 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

GNL1 (H-9) is recommended for detection of GNL1 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 GNL1 siRNA (h): sc-62389, GNL1 shRNA Plasmid (h): sc-62389-SH and GNL1 shRNA (h) Lentiviral Particles: sc-62389-V.

Molecular Weight (predicted) of GNL1: 69 kDa.

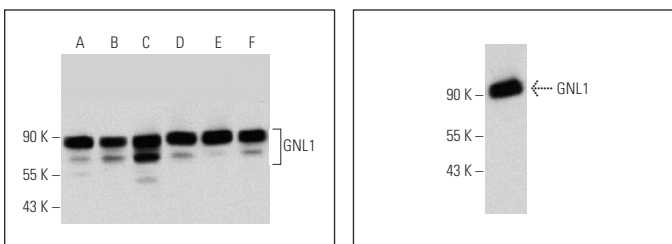
Molecular Weight (observed) of GNL1: 90 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, K-562 whole cell lysate: sc-2203 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



GNL1 (H-9): sc-514362. Western blot analysis of GNL1 expression in HeLa (A), JAR (B), A-431 (C), Jurkat (D), K-562 (E) and MCF7 (F) whole cell lysates.

GNL1 (H-9): sc-514362. Western blot analysis of GNL1 expression in Raji whole cell lysate.

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.