

GNL1 (W-14): sc-55835

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., Jagadeesh, G., Phan, N.T., Rao, T.S. and Veeranjaneyulu, A. 1990. MgCl₂-sensitive and GppNHP-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., Ribouchon, M.T., Chimini, G. and Pontarotti, P. 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., Boretto, J., Mattéi, M.G., Takahashi, M., Jack, L.J., Mather, I.H., Rouquier, S. and Pontarotti, P. 1994. Evolutionary study of multigenic families mapping close to the human MHC class I region. *J. Mol. Evol.* 37: 600-612.
4. Du, X., Rao, M.R., Chen, X.Q., Wu, W., Mahalingam, S. and Balasundaram, D. 2005. 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.

CHROMOSOMAL LOCATION

Genetic locus: GNL1 (human) mapping to 6p21.33; Gnl1 (mouse) mapping to 17 B1.

SOURCE

GNL1 (W-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GNL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55835 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

GNL1 (W-14) is recommended for detection of GNL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

GNL1 (W-14) is also recommended for detection of GNL1 in additional species, including equine, canine, bovine and porcine.

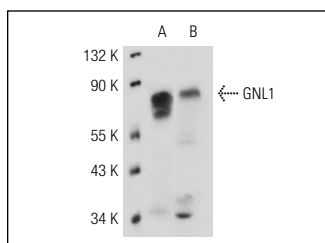
Suitable for use as control antibody for GNL1 siRNA (h): sc-62389, GNL1 siRNA (m): sc-62390, GNL1 shRNA Plasmid (h): sc-62389-SH, GNL1 shRNA Plasmid (m): sc-62390-SH, GNL1 shRNA (h) Lentiviral Particles: sc-62389-V and GNL1 shRNA (m) Lentiviral Particles: sc-62390-V.

Molecular Weight (predicted) of GNL1: 69 kDa.

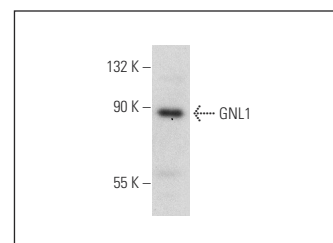
Molecular Weight (observed) of GNL1: 90 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

DATA



GNL1 (W-14): sc-55835. Western blot analysis of GNL1 expression in HeLa (A) and JAR (B) whole cell lysates.



GNL1 (W-14): sc-55835. Western blot analysis of GNL1 expression in NIH/3T3 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **GNL1 (H-9): sc-514362**, our highly recommended monoclonal alternative to GNL1 (W-14).