

MRP-L41 (N-14): sc-107253

BACKGROUND

Mitochondrial ribosomes consist of a large 39S subunit and a small 28S subunit, both of which are comprised of multiple mitochondrial ribosomal proteins (MRPs) that are encoded by nuclear genes and are essential for protein synthesis within mitochondria. MRP-L41 (mitochondrial ribosomal protein L41), also known as cell proliferation-inducing gene 3 protein and BMRP (Bcl-2-interacting mitochondrial ribosomal protein L41), is a 137 amino acid protein that localizes to the mitochondrion, where it exists as a component of the 39S ribosomal subunit and works in conjunction with other MRPs to mediate protein synthesis. Expressed in liver, testis, kidney and thymus, MRP-L41 is involved in the cell cycle and apoptosis. Possibly by stabilizing p21 and p27, MRP-L41 has the ability to arrest the cell cycle in the G₁ phase. MRP-L41 also enhances p53 stability, therefore contributing to p53-induced apoptosis in response to growth-inhibitory conditions.

REFERENCES

1. Graack, H.R. and Wittmann-Liebold, B. 1998. Mitochondrial ribosomal proteins (MRPs) of yeast. *Biochem. J.* 329: 433-448.
2. Kenmochi, N., et al. 2001. The human mitochondrial ribosomal protein genes: mapping of 54 genes to the chromosomes and implications for human disorders. *Genomics* 77: 65-70.
3. Suzuki, T., et al. 2001. Structural compensation for the deficit of rRNA with proteins in the mammalian mitochondrial ribosome. Systematic analysis of protein components of the large ribosomal subunit from mammalian mitochondria. *J. Biol. Chem.* 276: 21724-21736.
4. Koc, E.C., et al. 2001. The large subunit of the mammalian mitochondrial ribosome. Analysis of the complement of ribosomal proteins present. *J. Biol. Chem.* 276: 43958-43969.
5. Kim, M.J., et al. 2005. Mitochondrial ribosomal protein L41 mediates serum starvation-induced cell-cycle arrest through an increase of p21^{WAF1/CIP1}. *Biochem. Biophys. Res. Commun.* 338: 1179-1184.

CHROMOSOMAL LOCATION

Genetic locus: MRPL41 (human) mapping to 9q34.3; Mrpl41 (mouse) mapping to 2 A3.

SOURCE

MRP-L41 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MRP-L41 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-107253 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MRP-L41 (N-14) is recommended for detection of MRP-L41 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); non cross-reactive with other MRP-L family members.

MRP-L41 (N-14) is also recommended for detection of MRP-L41 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for MRP-L41 siRNA (h): sc-92716, MRP-L41 siRNA (m): sc-149603, MRP-L41 shRNA Plasmid (h): sc-92716-SH, MRP-L41 shRNA Plasmid (m): sc-149603-SH, MRP-L41 shRNA (h) Lentiviral Particles: sc-92716-V and MRP-L41 shRNA (m) Lentiviral Particles: sc-149603-V.

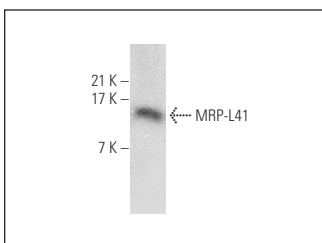
Molecular Weight of MRP-L41: 15 kDa.

Positive Controls: mouse kidney extract: sc-2255.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MRP-L41 (N-14): sc-107253. Western blot analysis of MRP-L41 expression in mouse kidney tissue extract.

RESEARCH USE

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

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Try **MRP-L41 (H-10): sc-514312**, our highly recommended monoclonal alternative to MRP-L41 (N-14).