SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L41 (C-13): sc-107252

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 G_1 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 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-107252 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 (C-13) 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), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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.

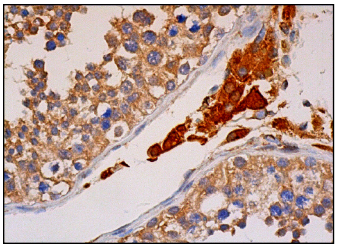
Suitable for use as control antibody for MRP-L41 siRNA (h): sc-92716, MRP-L41 siRNA (m): sc-149603, MRP-L41 shRNA Plasmid (h): sc-92716-SH, MRP-L41 shRNA Plasmid (m): sc-149603-SH, MRP-L41 shRNA (h) Lentiviral Particles: sc-92716-V and MRP-L41 shRNA (m) Lentiviral Particles: sc-149603-V.

Molecular Weight of MRP-L41: 15 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



MRP-L41 (C-13): sc-107252. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

RESEARCH USE

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