SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L41 (H-10): sc-514312

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 in-volved 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.

CHROMOSOMAL LOCATION

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

SOURCE

MRP-L41 (H-10) is a mouse monoclonal antibody raised against amino acids 9-117 mapping within an internal region of MRP-L41 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP-L41 (H-10) is available conjugated to agarose (sc-514312 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514312 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514312 PE), fluorescein (sc-514312 FITC), Alexa Fluor® 488 (sc-514312 AF488), Alexa Fluor® 546 (sc-514312 AF546), Alexa Fluor® 594 (sc-514312 AF594) or Alexa Fluor® 647 (sc-514312 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514312 AF680) or Alexa Fluor® 790 (sc-514312 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MRP-L41 (H-10) is recommended for detection of MRP-L41 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 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.

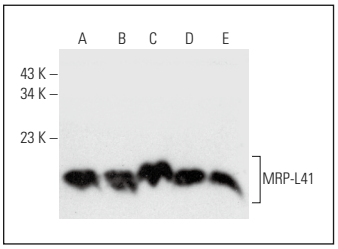
Molecular Weight of MRP-L41: 15 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, Hep G2 cell lysate: sc-2227 or RT-4 whole cell lysate: sc-364257.

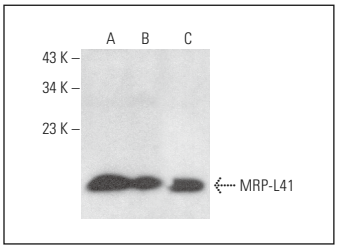
RECOMMENDED SUPPORT REAGENTS

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



MRP-L41 (H-10): sc-514312. Western blot analysis of MRP-L41 expression in Caki-1 (**A**), Hep G2 (**B**), RT-4 (**C**), U-251-MG (**D**) and Jurkat (**E**) whole cell lysates.



MRP-L41 (H-10): sc-514312. Western blot analysis of MRP-L41 expression in Caki-1 (**A**), MCF7 (**B**) and MDA-MB-435S (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Cicek, E., et al. 2022. EGF-SNX3-EGFR axis drives tumor progression and metastasis in triple-negative breast cancers. Oncogene 41: 220-232.

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.