SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L42 (H-8): sc-515820

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-L42 (mitochondrial ribosomal protein L42), also known as MRP-S32 and MRP-L31, is a 142 amino acid protein that localizes to the mitochondrion, where it exists as a component of the 39S and 28S ribosomal subunits and works in conjunction with other MRPs to mediate protein synthesis. The gene encoding MRP-L42 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

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. Cavdar Koc, E., et al. 2001. The small subunit of the mammalian mitochondrial ribosome. Identification of the full complement of ribosomal proteins present. J. Biol. Chem. 276: 19363-19374.

CHROMOSOMAL LOCATION

Genetic locus: MRPL42 (human) mapping to 12q22; Mrpl42 (mouse) mapping to 10 C2.

SOURCE

MRP-L42 (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 30-46 within an internal region of MRP-L42 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-L42 (H-8) is available conjugated to agarose (sc-515820 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515820 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515820 PE), fluorescein (sc-515820 FITC), Alexa Fluor® 488 (sc-515820 AF488), Alexa Fluor® 546 (sc-515820 AF546), Alexa Fluor® 594 (sc-515820 AF594) or Alexa Fluor® 647 (sc-515820 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515820 AF680) or Alexa Fluor® 790 (sc-515820 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

MRP-L42 (H-8) is recommended for detection of MRP-L42 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-L42 siRNA (h): sc-95875, MRP-L42 siRNA (m): sc-149604, MRP-L42 shRNA Plasmid (h): sc-95875-SH, MRP-L42 shRNA Plasmid (m): sc-149604-SH, MRP-L42 shRNA (h) Lentiviral Particles: sc-95875-V and MRP-L42 shRNA (m) Lentiviral Particles: sc-149604-V.

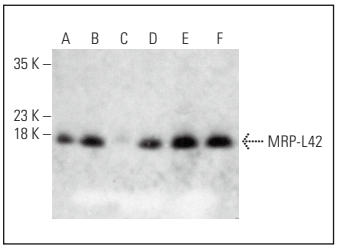
Molecular Weight of MRP-L42: 17 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, RT-4 whole cell lysate: sc-364257 or Jurkat whole cell lysate: sc-2204.

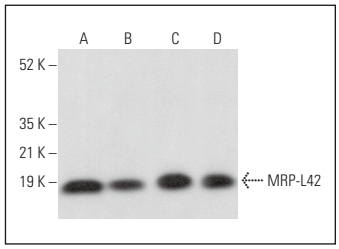
RECOMMENDED SUPPORT REAGENTS

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-L42 (H-8): sc-515820. Western blot analysis of MRP-L42 expression in Jurkat (**A**), K-562 (**B**), NIH/3T3 (**C**), HeLa (**D**), RT-4 (**E**) and U-251-MG (**F**) whole cell lysates. Note lack of reactivity with mouse MRP-L42 in Lane **C**.



MRP-L42 (H-8): sc-515820. Western blot analysis of MRP-L42 expression in K-562 (**A**), NTERA-2 cl.D1 (**B**), T-47D (**C**) and HL-60 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2022. DDX1 vesicles control calcium-dependent mitochondrial activity in mouse embryos. Nat. Commun. 13: 3794.

RESEARCH USE

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