SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L50 (C-3): sc-514532

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-L50 (mitochondrial ribosomal protein L50), is a 158 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. The gene encoding MRP-L50 maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

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.

CHROMOSOMAL LOCATION

Genetic locus: MRPL50 (human) mapping to 9q31.1; Mrpl50 (mouse) mapping to 4 B1.

SOURCE

MRP-L50 (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 53-76 within an internal region of MRP-L50 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP-L50 (C-3) is available conjugated to agarose (sc-514532 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514532 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514532 PE), fluorescein (sc-514532 FITC), Alexa Fluor® 488 (sc-514532 AF488), Alexa Fluor® 546 (sc-514532 AF546), Alexa Fluor® 594 (sc-514532 AF594) or Alexa Fluor® 647 (sc-514532 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514532 AF680) or Alexa Fluor® 790 (sc-514532 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514532 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

MRP-L50 (C-3) is recommended for detection of MRP-L50 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-L50 siRNA (h): sc-92796, MRP-L50 siRNA (m): sc-149611, MRP-L50 shRNA Plasmid (h): sc-92796-SH, MRP-L50 shRNA Plasmid (m): sc-149611-SH, MRP-L50 shRNA (h) Lentiviral Particles: sc-92796-V and MRP-L50 shRNA (m) Lentiviral Particles: sc-149611-V.

Molecular Weight (predicted) of MRP-L50: 18 kDa.

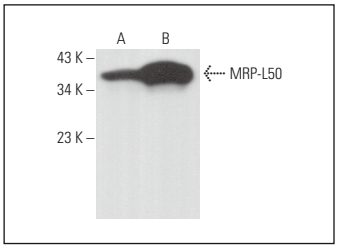
Molecular Weight (observed) of MRP-L50: 16-37 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, F9 cell lysate: sc-2245 or KNRK whole cell lysate: sc-2214.

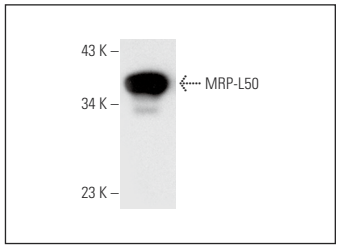
RECOMMENDED SUPPORT REAGENTS

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-L50 (C-3): sc-514532. Western blot analysis of MRP-L50 expression in KNRK (**A**) and F9 (**B**) whole cell lysates.



MRP-L50 (C-3): sc-514532. Western blot analysis of MRP-L50 expression in HeLa 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.

RESEARCH USE

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