SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L10 (E-9): sc-377196

BACKGROUND

Mitochondria have their own translation machinery for production of 13 proteins that are required for oxidative phosphorylation. MRP-L10 (39S ribosomal protein L10, mitochondrial), also known as MRPL8, is a 261 amino acid protein that is a component of the large ribosomal subunit of the mitochondria. MRP-L10 is one of the 70 protein components of mitochondrial ribosomes that are encoded by the nuclear genome. MRP-L10 is deacetylated in a NAD^+-dependent manner by SIRT3, which is an event that contributes to the regulation of mitochondrial protein synthesis. The gene encoding MRP-L10 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1.

REFERENCES

1. 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.
2. 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.
3. Wang, C.C., et al. 2004. Molecular hierarchy in neurons differentiated from mouse ES cells containing a single human chromosome 21. Biochem. Biophys. Res. Commun. 314: 335-350.

CHROMOSOMAL LOCATION

Genetic locus: MRPL10 (human) mapping to 17q21.32; Mrpl10 (mouse) mapping to 11 D.

SOURCE

MRP-L10 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 167-195 within an internal region of MRP-L10 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-L10 (E-9) is available conjugated to agarose (sc-377196 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377196 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377196 PE), fluorescein (sc-377196 FITC), Alexa Fluor® 488 (sc-377196 AF488), Alexa Fluor® 546 (sc-377196 AF546), Alexa Fluor® 594 (sc-377196 AF594) or Alexa Fluor® 647 (sc-377196 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377196 AF680) or Alexa Fluor® 790 (sc-377196 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377196 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MRP-L10 (E-9) is recommended for detection of MRP-L10 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), 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).

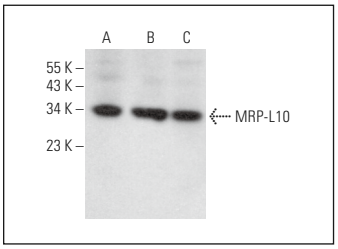
MRP-L10 (E-9) is also recommended for detection of MRP-L10 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for MRP-L10 siRNA (h): sc-93589, MRP-L10 siRNA (m): sc-149578, MRP-L10 shRNA Plasmid (h): sc-93589-SH, MRP-L10 shRNA Plasmid (m): sc-149578-SH, MRP-L10 shRNA (h) Lentiviral Particles: sc-93589-V and MRP-L10 shRNA (m) Lentiviral Particles: sc-149578-V.

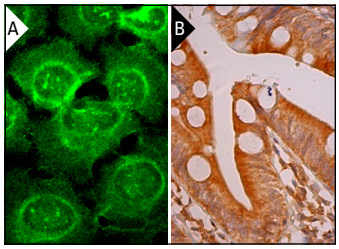
Molecular Weight of MRP-L10: 29 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or PC-12 cell lysate: sc-2250.

DATA



MRP-L10 (E-9): sc-377196. Western blot analysis of MRP-L10 expression in HeLa (**A**), NIH/3T3 (**B**) and PC-12 (**C**) whole cell lysates.



MRP-L10 (E-9): sc-377196. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Avolio, R., et al. 2023. Cytosolic and mitochondrial translation elongation are coordinated through the molecular chaperone TRAP1 for the synthesis and import of mitochondrial proteins. bioRxiv. E-published.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.