

MRP-L44 (E-7): sc-515489

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-L44 (mitochondrial ribosomal protein L44) is a 332 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. MRP-L44 contains one RNase III domain and one DRBM (double-stranded RNA-binding) domain, motifs that are typically found in proteins involved in RNA maturation and localization. The gene encoding MRP-L44 maps to human chromosome 2q36.1, which houses over 1,400 genes and comprises nearly 8% of the human genome.

REFERENCES

1. Graack, H.R., et al. 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. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). *Genome Res.* 14: 2121-2127.
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CHROMOSOMAL LOCATION

Genetic locus: MRPL44 (human) mapping to 2q36.1; Mrpl44 (mouse) mapping to 1 C4.

SOURCE

MRP-L44 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 249-264 within an internal region of MRP-L44 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515489 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MRP-L44 (E-7) is recommended for detection of MRP-L44 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-L44 siRNA (h): sc-94925, MRP-L44 siRNA (m): sc-106247, MRP-L44 shRNA Plasmid (h): sc-94925-SH, MRP-L44 shRNA Plasmid (m): sc-106247-SH, MRP-L44 shRNA (h) Lentiviral Particles: sc-94925-V and MRP-L44 shRNA (m) Lentiviral Particles: sc-106247-V.

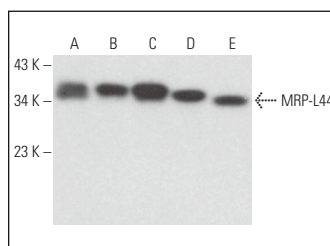
Molecular Weight of MRP-L44: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, ES-2 cell lysate: sc-24674 or SK-MEL-28 cell lysate: sc-2236.

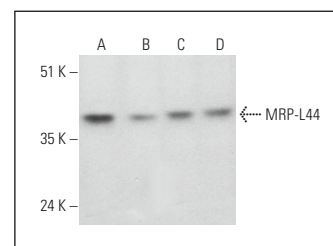
RECOMMENDED SUPPORT REAGENTS

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-L44 (E-7): sc-515489. Western blot analysis of MRP-L44 expression in Hep G2 (A), Jurkat (B), K-562 (C), MM-142 (D) and PC-12 (E) whole cell lysates.



MRP-L44 (E-7): sc-515489. Western blot analysis of MRP-L44 expression in Hep G2 (A), HeLa (B), SK-MEL-28 (C) and ES-2 (D) whole cell lysates.

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.