

MRP-L12 (397.1): sc-100839

BACKGROUND

MRP-L12 (mitochondrial ribosomal protein-L12), also referred to as 5c5-2, L12mt, MRPL7 or RPML12, is a mammalian mitochondrial ribosomal protein that is involved in protein synthesis within the mitochondrion. MRP-L12 is enhanced in growth-stimulated cells as a result of transcriptional activation, suggesting that it may function as a translational regulator of mitochondrial mRNAs. Impairment of MRP-L12 leads to reduction in cell growth rate, decreased mitochondrial ATP production and abolition of mitochondrial oxidative phosphorylation. MRP-L12 is cleaved during its translocation across the mitochondrial membrane and it exists as dimers that bind the large ribosomal subunit. MRP-L12 is 198 amino acids in length, belongs to the ribosomal protein L12P family and is highly expressed in the colon.

REFERENCES

- Marty, L. and Fort, P. 1996. A delayed-early response nuclear gene encoding MRPL12, the mitochondrial homologue to the bacterial translational regulator L7/L12 protein. *J. Biol. Chem.* 271: 11468-11476.
- Marty, L., et al. 1997. Expression and human chromosomal localization to 17q25 of the growth-regulated gene encoding the mitochondrial ribosomal protein MRPL12. *Genomics* 41: 453-457.
- Johnson, D.F., et al. 1998. Characterization of the human mitochondrial ribosomal S12 gene. *Genomics* 52: 363-368.
- Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602375. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Frei, C., et al. 2005. The *Drosophila* mitochondrial ribosomal protein MRPL12 is required for cyclin D/Cdk4-driven growth. *EMBO J.* 24: 623-634.
- Wang, Z., et al. 2007. Human mitochondrial ribosomal protein MRPL12 interacts directly with mitochondrial RNA polymerase to modulate mitochondrial gene expression. *J. Biol. Chem.* 282: 12610-12618.
- SWISS-PROT/TrEMBL (P52815). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: MRPL12 (human) mapping to 17q25.3; Mrpl12 (mouse) mapping to 11 E2.

SOURCE

MRP-L12 (397.1) is a mouse monoclonal antibody raised against recombinant MRP-L12 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

MRP-L12 (397.1) is recommended for detection of MRP-L12 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Suitable for use as control antibody for MRP-L12 siRNA (h): sc-93743, MRP-L12 siRNA (m): sc-149580, MRP-L12 shRNA Plasmid (h): sc-93743-SH, MRP-L12 shRNA Plasmid (m): sc-149580-SH, MRP-L12 shRNA (h) Lentiviral Particles: sc-93743-V and MRP-L12 shRNA (m) Lentiviral Particles: sc-149580-V.

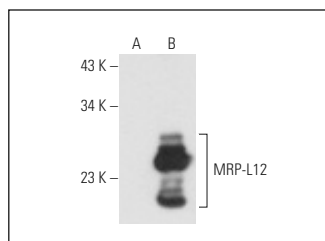
Molecular Weight of MRP-L12: 21 kDa.

Positive Controls: MRP-L12 (m2): 293T Lysate: sc-125637.

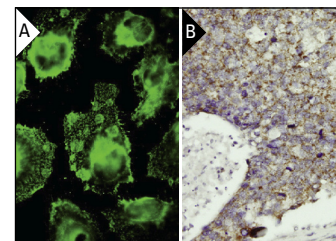
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MRP-L12 (397.1): sc-100839. Western blot analysis of MRP-L12 expression in non-transfected: sc-117752 (A) and mouse MRP-L12 transfected: sc-125637 (B) 293T whole cell lysates.



MRP-L12 (397.1): sc-100839. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast cancer tissue showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Martin, B., et al. 2015. GIT2 acts as a systems-level coordinator of neurometabolic activity and pathophysiological aging. *Front. Endocrinol.* 6: 191.

RESEARCH USE

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