SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L12 (L-12): sc-107763

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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

1. Marty, L. and Fort, P. 1996. A delayed-early response nuclear gene encoding MRP-L12, the mitochondrial homologue to the bacterial translational regulator L7/L12 protein. J. Biol. Chem. 271: 11468-11476.
2. Marty, L., Taviaux, S. and Fort, P. 1997. Expression and human chromosomal localization to 17q25 of the growth-regulated gene encoding the mitochondrial ribosomal protein MRPL12. Genomics 41: 453-457.
3. Johnson, D.F., Hamon, M. and Fischel-Ghodsian, N. 1998. Characterization of the human mitochondrial ribosomal S12 gene. Genomics 52: 363-368.
4. 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/
5. Frei, C., Galloni, M., Hafen, E. and Edgar, B.A. 2005. The *Drosophila* mitochondrial ribosomal protein MRP-L12 is required for Cyclin D/Cdk4-driven growth. EMBO J. 24: 623-634.
6. Wang, Z., Cotney, J. and Shadel, G.S. 2007. Human mitochondrial ribosomal protein MRP-L12 interacts directly with mitochondrial RNA polymerase to modulate mitochondrial gene expression. J. Biol. Chem. 282: 12610-12618.

CHROMOSOMAL LOCATION

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

SOURCE

MRP-L12 (L-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MRP-L12 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107763 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (L-12) 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), 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).

MRP-L12 (L-12) is also recommended for detection of MRP-L12 in additional species, including avian.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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