SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L23 (P-13): sc-131604

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-L23 (mitochondrial ribosomal protein L23), also known as RPL23, L23MRP or RPL23L, is a 153 amino acid mitochondrial protein that exists as a component of the 39S ribosomal subunit and works in conjunction with other MRPs to mediate protein synthesis. The gene encoding MRP-L23 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

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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. 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.
4. O'Brien, T.W. 2002. Evolution of a protein-rich mitochondrial ribosome: implications for human genetic disease. Gene 286: 73-79.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600789. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Zhang, Z. and Gerstein, M. 2003. Identification and characterization of over 100 mitochondrial ribosomal protein pseudogenes in the human genome. Genomics 81: 468-480.
7. Sun, X.X., et al. 2007. 5-fluorouracil activation of p53 involves an MDM2-ribosomal protein interaction. J. Biol. Chem. 282: 8052-8059.

CHROMOSOMAL LOCATION

Genetic locus: MRPL23 (human) mapping to 11p15.5; Mrpl23 (mouse) mapping to 7 F5.

SOURCE

MRP-L23 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-L23 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-131604 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRP-L23 (P-13) is recommended for detection of MRP-L23 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other MRP-L family members.

MRP-L23 (P-13) is also recommended for detection of MRP-L23 in additional species, including equine and canine.

Suitable for use as control antibody for MRP-L23 siRNA (h): sc-96798, MRP-L23 siRNA (m): sc-149591, MRP-L23 shRNA Plasmid (h): sc-96798-SH, MRP-L23 shRNA Plasmid (m): sc-149591-SH, MRP-L23 shRNA (h) Lentiviral Particles: sc-96798-V and MRP-L23 shRNA (m) Lentiviral Particles: sc-149591-V.

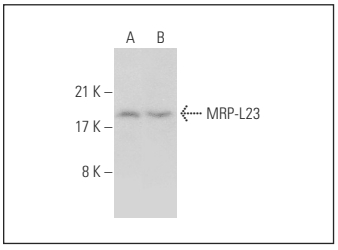
Molecular Weight of MRP-L23: 18 kDa.

Positive Controls: Daudi cell lysate: sc-2415 or NIH/3T3 whole cell lysate: sc-2210.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MRP-L23 (P-13): sc-131604. Western blot analysis of MRP-L23 expression in NIH/3T3 (**A**) and Daudi (**B**) 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.