

MRP-L23 (G-13): sc-131603

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 map to chromosome 11.

REFERENCES

1. Tsang, P., Gilles, F., Yuan, L., Kuo, Y.H., Lupu, F., Samara, G., Moosikasuwan, J., Goye, A., Zelenetz, A.D. and Selleri, L. 1995. A novel L23-related gene 40 kb downstream of the imprinted H19 gene is biallelically expressed in mid-fetal and adult human tissues. *Hum. Mol. Genet.* 4: 1499-1507.
2. Kenmochi, N., Suzuki, T., Uechi, T., Magoori, M., Kuniba, M., Higa, S., Watanabe, K. and Tanaka, T. 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., Burkhart, W., Blackburn, K., Moyer, M.B., Schlatzer, D.M., Moseley, A. and Spemulli, L.L. 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., Dai, M.S. and Lu, H. 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 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-L23 of human origin.

RESEARCH USE

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

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-131603 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRP-L23 (G-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), 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 (G-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.

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.

STORAGE

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

PROTOCOLS

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