

MRP-L36 (Y-14): sc-107251

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-L36 (mitochondrial ribosomal protein L36), also known as BRIP1 (BRCA1-interacting protein 1), is a 103 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. Overexpression of MRP-L36 seems to increase efficiency of mitochondrial translation. Association between LETM1 and MRP-L36 contributes to the regulation of mitochondrial ATP production and necrotic cell death. The gene encoding MRP-L36 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

1. Graack, H.R. and Wittmann-Liebold, B. 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. Zhang, Z. and Gerstein, M. 2003. Identification and characterization of over 100 mitochondrial ribosomal protein pseudogenes in the human genome. *Genomics* 81: 468-480.
5. Williams, E.H., et al. 2004. MRP-L36p, a highly diverged L31 ribosomal protein homolog with additional functional domains in *Saccharomyces cerevisiae* mitochondria. *Genetics* 167: 65-75.
6. O'Brien, T.W., et al. 2005. Nuclear MRP genes and mitochondrial disease. *Gene* 354: 147-151.
7. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611842. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Piao, L., et al. 2009. Association of LETM1 and MRP-L36 contributes to the regulation of mitochondrial ATP production and necrotic cell death. *Cancer Res.* 69: 3397-3404.
9. Prestele, M., et al. 2009. MRP-L36 is important for generation of assembly competent proteins during mitochondrial translation. *Mol. Biol. Cell* 20: 2615-2625.

CHROMOSOMAL LOCATION

Genetic locus: MRPL36 (human) mapping to 5p15.33.

STORAGE

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

SOURCE

MRP-L36 (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-L36 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-107251 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRP-L36 (Y-14) is recommended for detection of MRP-L36 of 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.

Suitable for use as control antibody for MRP-L36 siRNA (h): sc-91803, MRP-L36 shRNA Plasmid (h): sc-91803-SH and MRP-L36 shRNA (h) Lentiviral Particles: sc-91803-V.

Molecular Weight of MRP-L36: 12 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.