

# MRP-L42 (Y-12): sc-109574

## 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-L42 (mitochondrial ribosomal protein L42), also known as MRP-S32 and MRP-L31, is a 142 amino acid protein that localizes to the mitochondrion, where it exists as a component of the 39S and 28S ribosomal subunits and works in conjunction with other MRPs to mediate protein synthesis. The gene encoding MRP-L42 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

## 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. Cavdar Koc, E., et al. 2001. The small subunit of the mammalian mitochondrial ribosome. Identification of the full complement of ribosomal proteins present. *J. Biol. Chem.* 276: 19363-19374.
4. 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.
5. 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.
6. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the mammalian gene collection (MGC). *Genome Res.* 14: 2121-2127.

## CHROMOSOMAL LOCATION

Genetic locus: MRPL42 (human) mapping to 12q22; Mrpl42 (mouse) mapping to 10 C2.

## SOURCE

MRP-L42 (Y-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-L42 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-109574 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MRP-L42 (Y-12) is recommended for detection of MRP-L42 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 family members.

Suitable for use as control antibody for MRP-L42 siRNA (h): sc-95875, MRP-L42 siRNA (m): sc-149604, MRP-L42 shRNA Plasmid (h): sc-95875-SH, MRP-L42 shRNA Plasmid (m): sc-149604-SH, MRP-L42 shRNA (h) Lentiviral Particles: sc-95875-V and MRP-L42 shRNA (m) Lentiviral Particles: sc-149604-V.

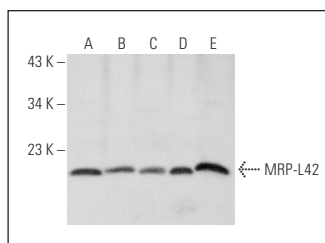
Molecular Weight of MRP-L42: 17 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

## 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-L42 (Y-12): sc-109574. Western blot analysis of MRP-L42 expression in HeLa (A), RT-4 (B), U-251-MG (C), K-562 (D) and NIH/3T3 (E) 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.