

# MRP-L13 (N-14): sc-87307

## BACKGROUND

Mitochondrial ribosomes are made of a 28S subunit and a larger 39S subunit. These ribosomes have an approximate composition of 75% protein to rRNA as compared to prokaryotic ribosomes, where reverse proportions are found. MRP-L13 (39S ribosomal protein L13, mitochondrial) is a 178 amino acid protein that exists as a component of the 39S ribosomal subunit and works in conjunction with other MRPs to mediate protein synthesis. MRP-L13 contains an amino-terminal leucine zipper and a carboxy-terminal basic leucine zipper domain. MRP-L13 that is released from the 60S ribosomal subunit binds to  $\gamma$ -interferon-activated inhibitor of translation (GAIT) element in the 3' UTR of ceruloplasmin (Cp), thereby silencing the translation of Cp. With this evidence, it has been suggested that MRP-L13 functions both as a protein synthesis machine and acts as a station for regulatory proteins that modulate translation.

## REFERENCES

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- Grohmann, L., et al. 1994. The yeast nuclear gene MRP-L13 codes for a protein of the large subunit of the mitochondrial ribosome. *Curr. Genet.* 26: 8-14.
- 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.
- 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.
- Mazumder, B., et al. 2003. Regulated release of L13a from the 60S ribosomal subunit as a mechanism of transcript-specific translational control. *Cell* 115: 187-198.
- Kapasi, P., et al. 2007. L13a blocks 48S assembly: role of a general initiation factor in mRNA-specific translational control. *Mol. Cell* 25: 113-126.

## CHROMOSOMAL LOCATION

Genetic locus: MRPL13 (human) mapping to 8q24.12; Mrpl13 (mouse) mapping to 15 D1.

## SOURCE

MRP-L13 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of MRP-L13 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87307 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MRP-L13 (N-14) is recommended for detection of MRP-L13 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

MRP-L13 (N-14) is also recommended for detection of MRP-L13 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MRP-L13 siRNA (h): sc-77761, MRP-L13 siRNA (m): sc-149581, MRP-L13 shRNA Plasmid (h): sc-77761-SH, MRP-L13 shRNA Plasmid (m): sc-149581-SH, MRP-L13 shRNA (h) Lentiviral Particles: sc-77761-V and MRP-L13 shRNA (m) Lentiviral Particles: sc-149581-V.

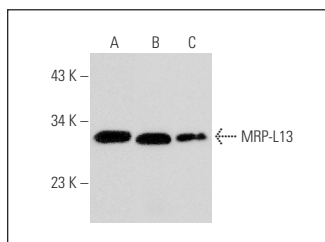
Molecular Weight of MRP-L13: 24 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, mouse lung extract: sc-2390 or mouse cerebellum extract: sc-2403.

## 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-L13 (N-14): sc-87307. Western blot analysis of MRP-L13 expression in RAW 264.7 whole cell lysate (A) and mouse lung (B) and mouse cerebellum (C) tissue extracts.

## 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.