

MRP-L39 (I-19): sc-83301

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-L39 (mitochondrial ribosomal protein L39), also known as MRP-L5, L39mt or L5mt, is a 338 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. MRP-L39 exists as two isoforms produced by alternative splicing. Isoform one of MRP-L39 is ubiquitously expressed while isoform two is specifically expressed in heart. The gene encoding MRP-L39 maps to chromosome 21, which makes up about 1.5% of the human genome. Chromosome 21 contains nearly 300 genes and 47 million base pairs. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer's disease, Jervell and Lange-Nielsen syndrome and amyotrophic lateral sclerosis are also associated with chromosome 21.

REFERENCES

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3. 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.
4. O'Brien, T.W. 2002. Evolution of a protein-rich mitochondrial ribosome: implications for human genetic disease. *Gene* 286: 73-79.
5. Zhang, Z. and Gerstein, M. 2003. Identification and characterization of over 100 mitochondrial ribosomal protein pseudogenes in the human genome. *Genomics* 81: 468-480.
6. Robakis, N.K. 2006. The discovery and mapping to chromosome 21 of the Alzheimer's amyloid gene: history revised. *J. Alzheimers Dis.* 10: 453-455.
7. Sun, X., et al. 2006. BACE2, as a novel APP θ -secretase, is not responsible for the pathogenesis of Alzheimer's disease in Down syndrome. *FASEB J.* 20: 1369-1376.
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CHROMOSOMAL LOCATION

Genetic locus: MRPL39 (human) mapping to 21q21.3; Mrpl39 (mouse) mapping to 16 C3.3.

STORAGE

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

SOURCE

MRP-L39 (I-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MRP-L39 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83301 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRP-L39 (I-19) is recommended for detection of MRP-L39 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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); non cross-reactive with other MRP family members.

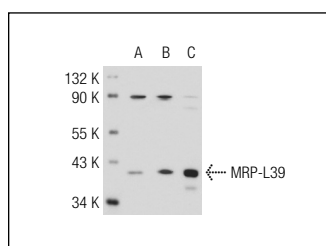
MRP-L39 (I-19) is also recommended for detection of MRP-L39 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MRP-L39 siRNA (h): sc-91409, MRP-L39 siRNA (m): sc-149600, MRP-L39 shRNA Plasmid (h): sc-91409-SH, MRP-L39 shRNA Plasmid (m): sc-149600-SH, MRP-L39 shRNA (h) Lentiviral Particles: sc-91409-V and MRP-L39 shRNA (m) Lentiviral Particles: sc-149600-V.

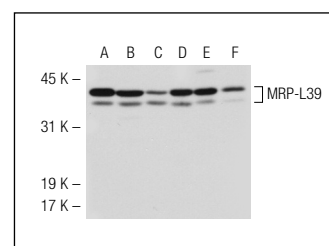
Molecular Weight of MRP-L39: 39 kDa.

Positive Controls: MRP-L39 (m): 293T Lysate: sc-121767, Hep G2 cell lysate: sc-2227 or SK-BR-3 cell lysate: sc-2218.

DATA



MRP-L39 (I-19): sc-83301. Western blot analysis of MRP-L39 expression in non-transfected 293T: sc-117752 (A), mouse MRP-L39 transfected 293T: sc-121767 (B) and Hep G2 (C) whole cell lysates.



MRP-L39 (I-19): sc-83301. Western blot analysis of MRP-L39 expression in HEK293 (A), Hep G2 (B), SK-BR-3 (C), NTERA-2 cl.D1 (D), U-937 (E) and MOLT-4 (F) whole cell lysates.

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.