

MRP-L49 (G-11): sc-515160

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-L49 (mitochondrial ribosomal protein L49), also known as Neighbor of FAU and protein NOF1, is a 166 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. The gene encoding MRP-L49 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 maps to chromosome 11.

REFERENCES

1. Kas, K., et al. 1996. Isolation, cDNA, and genomic structure of a conserved gene (NOF) at chromosome 11q13 next to FAU and oriented in the opposite transcriptional orientation. *Genomics* 34: 433-436.
2. Graack, H.R. and Wittmann-Liebold, B. 1998. Mitochondrial ribosomal proteins (MRPs) of yeast. *Biochem. J.* 329: 433-448.
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. 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.

CHROMOSOMAL LOCATION

Genetic locus: MRPL49 (human) mapping to 11q13.1; Mrpl49 (mouse) mapping to 19 A.

SOURCE

MRP-L49 (G-11) is a mouse monoclonal antibody raised against amino acids 24-166 mapping at the C-terminus of MRP-L49 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP-L49 (G-11) is available conjugated to agarose (sc-515160 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515160 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515160 PE), fluorescein (sc-515160 FITC), Alexa Fluor® 488 (sc-515160 AF488), Alexa Fluor® 546 (sc-515160 AF546), Alexa Fluor® 594 (sc-515160 AF594) or Alexa Fluor® 647 (sc-515160 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515160 AF680) or Alexa Fluor® 790 (sc-515160 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

MRP-L49 (G-11) is recommended for detection of MRP-L49 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for MRP-L49 siRNA (h): sc-97026, MRP-L49 siRNA (m): sc-149610, MRP-L49 shRNA Plasmid (h): sc-97026-SH, MRP-L49 shRNA Plasmid (m): sc-149610-SH, MRP-L49 shRNA (h) Lentiviral Particles: sc-97026-V and MRP-L49 shRNA (m) Lentiviral Particles: sc-149610-V.

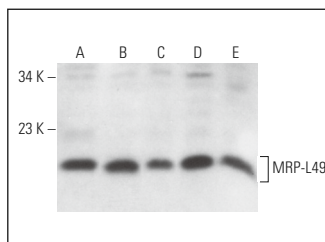
Molecular Weight of MRP-L49: 19 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, COLO 320DM cell lysate: sc-2226 or U-698-M whole cell lysate: sc-364799.

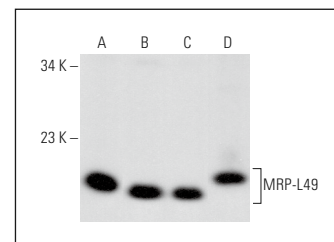
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MRP-L49 (G-11): sc-515160. Western blot analysis of MRP-L49 expression in HeLa (A), COLO 320DM (B), Jurkat (C) and U-698-M (D) whole cell lysates and human adrenal gland tissue extract (E).



MRP-L49 (G-11): sc-515160. Western blot analysis of MRP-L49 expression in HeLa (A), K-562 (B) and Hep G2 (C) whole cell lysates and mouse brain tissue extract (D).

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.

PROTOCOLS

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