SANTA CRUZ BIOTECHNOLOGY, INC.

# MRP-L44 (G-12): sc-515503

## 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-L44 (mitochondrial ribosomal protein L44) is a 332 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. MRP-L44 contains one RNase III domain and one DRBM (double-stranded RNA-binding) domain, motifs that are typically found in proteins involved in RNA maturation and localization. The gene encoding MRP-L44 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% 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. 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.
5. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.


## CHROMOSOMAL LOCATION

Genetic locus: MRPL44 (human) mapping to 2q36.1; Mrpl44 (mouse) mapping to 1 C4.

## SOURCE

MRP-L44 (G-12) is a mouse monoclonal antibody raised against amino acids 80-292 mapping within an internal region of MRP-L44 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP-L44 (G-12) is available conjugated to agarose (sc-515503 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515503 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515503 PE), fluorescein (sc-515503 FITC), Alexa Fluor® 488 (sc-515503 AF488), Alexa Fluor® 546 (sc-515503 AF546), Alexa Fluor® 594 (sc-515503 AF594) or Alexa Fluor® 647 (sc-515503 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515503 AF680) or Alexa Fluor® 790 (sc-515503 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

MRP-L44 (G-12) is recommended for detection of MRP-L44 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-L44 siRNA (h): sc-94925, MRP-L44 siRNA (m): sc-106247, MRP-L44 shRNA Plasmid (h): sc-94925-SH, MRP-L44 shRNA Plasmid (m): sc-106247-SH, MRP-L44 shRNA (h) Lentiviral Particles: sc-94925-V and MRP-L44 shRNA (m) Lentiviral Particles: sc-106247-V.

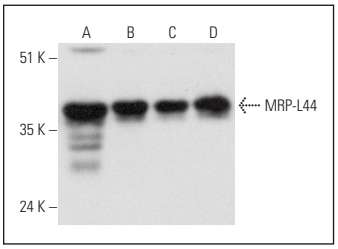
Molecular Weight of MRP-L44: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

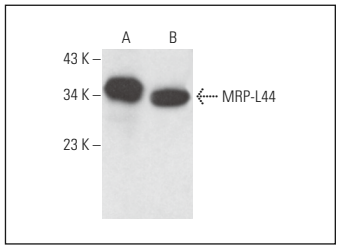
## RECOMMENDED SUPPORT REAGENTS

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-L44 (G-12): sc-515503. Western blot analysis of MRP-L44 expression in Hep G2 (**A**), HeLa (**B**), Jurkat (**C**) and K-562 (**D**) whole cell lysates.




MRP-L44 (G-12): sc-515503. Western blot analysis of MRP-L44 expression in Hep G2 (**A**) and PC-12 (**B**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Wang, Y., et al. 2022. DDX1 vesicles control calcium-dependent mitochondrial activity in mouse embryos. Nat. Commun. 13: 3794.


## 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.