

MRP-S23 (D-9): sc-514827

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-S23 (mitochondrial ribosomal protein S23), also known as HSPC329, is a 190 amino acid protein that localizes to the mitochondrion, where it exists as a component of the 28S ribosomal subunit and works in conjunction with other MRPs to mediate protein synthesis. The gene encoding MRP-S23 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1.

REFERENCES

1. 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.
2. 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.
3. Suzuki, T., et al. 2001. Proteomic analysis of the mammalian mitochondrial ribosome. Identification of protein components in the 28 S small subunit. *J. Biol. Chem.* 276: 33181-33195.
4. Zhang, Z. and Gerstein, M. 2003. Identification and characterization of over 100 mitochondrial ribosomal protein pseudogenes in the human genome. *Genomics* 81: 468-480.

CHROMOSOMAL LOCATION

Genetic locus: MRPS23 (human) mapping to 17q22.

SOURCE

MRP-S23 (D-9) is a mouse monoclonal antibody raised against amino acids 1-125 mapping at the N-terminus of MRP-S23 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP-S23 (D-9) is available conjugated to agarose (sc-514827 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514827 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514827 PE), fluorescein (sc-514827 FITC), Alexa Fluor® 488 (sc-514827 AF488), Alexa Fluor® 546 (sc-514827 AF546), Alexa Fluor® 594 (sc-514827 AF594) or Alexa Fluor® 647 (sc-514827 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514827 AF680) or Alexa Fluor® 790 (sc-514827 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

MRP-S23 (D-9) is recommended for detection of MRP-S23 of 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-S23 siRNA (h): sc-93970, MRP-S23 shRNA Plasmid (h): sc-93970-SH and MRP-S23 shRNA (h) Lentiviral Particles: sc-93970-V.

Molecular Weight of MRP-S23: 22 kDa.

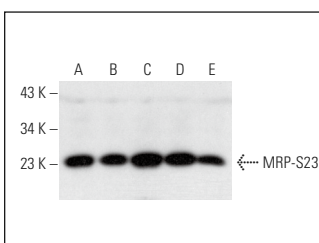
Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or ARPE-19 whole cell lysate: sc-364357.

RECOMMENDED SUPPORT REAGENTS

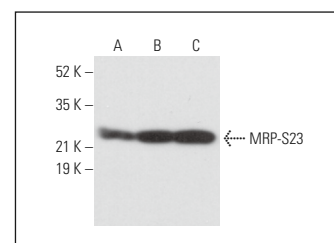
To ensure optimal results, the following support reagents are recommended:

- 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-S23 (D-9): sc-514827. Western blot analysis of MRP-S23 expression in ARPE-19 (A), U-251-MG (B), Hep G2 (C) and HeLa (D) whole cell lysates and human liver tissue extract (E).



MRP-S23 (D-9): sc-514827. Western blot analysis of MRP-S23 expression in Caki-1 (A), HeLa (B) and Y79 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Abad, E., et al. 2019. Common metabolic pathways implicated in resistance to chemotherapy point to a key mitochondrial role in breast cancer. *Mol. Cell. Proteomics* 18: 231-244.
2. Oviya, R.P., et al. 2021. Mitochondrial ribosomal small subunit proteins (MRPS) MRPS6 and MRPS23 show dysregulation in breast cancer affecting tumorigenic cellular processes. *Gene* 790: 145697.

STORAGE

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