

MRP-S27 (A-10): sc-390396

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-S27 (mitochondrial ribosomal protein S27), also known as S27mt, is a 414 amino acid component of the mitochondrial ribosome small subunit (28S) that localizes to mitochondria and contains two PPR (pentatricopeptide) repeats. Widely expressed, MRP-S27 is found at highest levels in skeletal muscle and heart, and is encoded by a gene located on human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Nagase, T., et al. 1996. Prediction of the coding sequences of unidentified human genes. VI. The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by analysis of cDNA clones from cell line KG-1 and brain. *DNA Res.* 3: 321-329, 341.
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.

CHROMOSOMAL LOCATION

Genetic locus: MRPS27 (human) mapping to 5q13.2; Mrps27 (mouse) mapping to 13 D1.

SOURCE

MRP-S27 (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-55 near the N-terminus of MRP-S27 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-S27 (A-10) is available conjugated to agarose (sc-390396 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390396 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390396 PE), fluorescein (sc-390396 FITC), Alexa Fluor[®] 488 (sc-390396 AF488), Alexa Fluor[®] 546 (sc-390396 AF546), Alexa Fluor[®] 594 (sc-390396 AF594) or Alexa Fluor[®] 647 (sc-390396 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390396 AF680) or Alexa Fluor[®] 790 (sc-390396 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390396 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

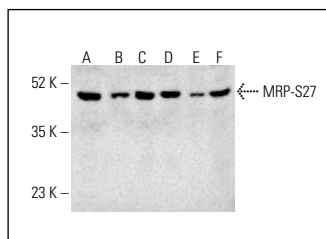
MRP-S27 (A-10) is recommended for detection of MRP-S27 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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-S27 siRNA (h): sc-91758, MRP-S27 siRNA (m): sc-149627, MRP-S27 shRNA Plasmid (h): sc-91758-SH, MRP-S27 shRNA Plasmid (m): sc-149627-SH, MRP-S27 shRNA (h) Lentiviral Particles: sc-91758-V and MRP-S27 shRNA (m) Lentiviral Particles: sc-149627-V.

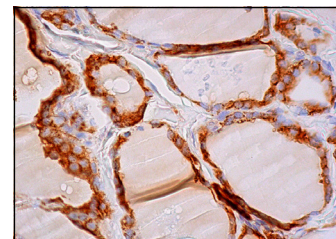
Molecular Weight of MRP-S27: 48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

DATA



MRP-S27 (A-10): sc-390396. Western blot analysis of MRP-S27 expression in HeLa (A), Jurkat (B), A549 (C), Hep G2 (D), SJRH30 (E) and MCF7 (F) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



MRP-S27 (A-10): sc-390396. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

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.

PROTOCOLS

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

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