

# MRP-S27 (K-13): sc-107016

## 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, 341-354.
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. Koc, E.C., et al. 2001. Identification of four proteins from the small subunit of the mammalian mitochondrial ribosome using a proteomics approach. *Protein Sci.* 10: 471-481.
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: MRPS27 (human) mapping to 5q13.2; Mrps27 (mouse) mapping to 13 D1.

## SOURCE

MRP-S27 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-S27 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107016 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

MRP-S27 (K-13) is recommended for detection of MRP-S27 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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-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.

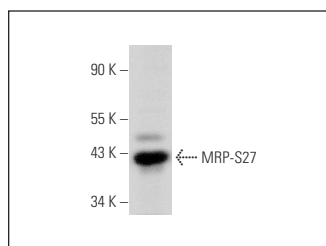
Molecular Weight of MRP-S27: 48 kDa.

Positive Controls: mouse skeletal muscle extract: sc-364250.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DAT



MRP-S27 (K-13): sc-107016. Western blot analysis of MRP-S27 expression in mouse skeletal muscle tissue extract.

## RESEARCH USE

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

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Try **MRP-S27 (A-10): sc-390396**, our highly recommended monoclonal alternative to MRP-S27 (K-13).