SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-S16 (L-12): sc-107010

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-S16 (mitochondrial ribosomal protein S16) is a 137 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. Defects in the gene encoding MRP-S16 are the cause of COXPD2 (combined phosphorylation deficiency type 2), a disease characterized by severe multi-system failure and symptoms such as fatal neonatal metabolic acidosis with agenesis of the corpus callosum.

REFERENCES

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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. 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.
4. 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.
5. Gan, X., et al. 2002. Tag-mediated isolation of yeast mitochondrial ribosome and mass spectrometric identification of its new components. Eur. J. Biochem. 269: 5203-5214.
6. Zhang, Z. and Gerstein, M. 2003. Identification and characterization of over 100 mitochondrial ribosomal protein pseudogenes in the human genome. Genomics 81: 468-480.
7. Miller, C., et al. 2004. Defective mitochondrial translation caused by a ribosomal protein (MRP-S16) mutation. Ann. Neurol. 56: 734-738.

CHROMOSOMAL LOCATION

Genetic locus: MRPS16 (human) mapping to 10q22.2; Mrps16 (mouse) mapping to 14 A3.

SOURCE

MRP-S16 (L-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-S16 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-107010 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRP-S16 (L-12) is recommended for detection of MRP-S16 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

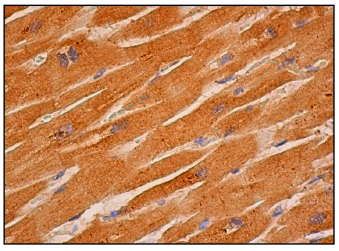
Suitable for use as control antibody for MRP-S16 siRNA (h): sc-90541, MRP-S16 siRNA (m): sc-149618, MRP-S16 shRNA Plasmid (h): sc-90541-SH, MRP-S16 shRNA Plasmid (m): sc-149618-SH, MRP-S16 shRNA (h) Lentiviral Particles: sc-90541-V and MRP-S16 shRNA (m) Lentiviral Particles: sc-149618-V.

Molecular Weight of MRP-S16: 15 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



MRP-S16 (L-12): sc-107010. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

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 or our catalog for detailed protocols and support products.