

MRP-S14 (K-17): sc-67688

BACKGROUND

MRP-S14 (mitochondrial 28S ribosomal protein S14, S14mt) is a 128 amino acid protein encoded by the human gene MRPS14. MRP-S14 is a component of the mitochondrial ribosome small subunit (28S) which comprises a 12S rRNA and about 30 distinct proteins. The human mitochondrial ribosome has 29 distinct proteins in the small subunit. Fourteen of this group of proteins are homologs of the *Escherichia coli* 30 S ribosomal proteins S2, S5, S6, S7, S9, S10, S11, S12, S14, S15, S16, S17, S18 and S21. All of these proteins have homologs in *Drosophila melanogaster*, *Caenorhabditis elegans* and *Saccharomyces cerevisiae* mitochondrial ribosomes.

REFERENCES

1. Spirin, A.S., Agafonov, D.E., Kolb, V.A. and Kommer, A. 1997. Topography of ribosomal proteins: reconsideration of protein map of small ribosomal subunit. *Biochimica* 61: 1928-1930.
2. Koc, E.C., Burkhart, W., Blackburn, K., Moseley, A., Koc, H. and Spremulli, L.L. 2000. A proteomics approach to the identification of mammalian mitochondrial small subunit ribosomal proteins. *J. Biol. Chem.* 275: 32585-32591.
3. Figueroa, P., Holuigue, L., Araya, A. and Jordana, X. 2000. The nuclear-encoded SDH2-RPS14 precursor is proteolytically processed between SDH2 and RPS14 to generate maize mitochondrial RPS14. *Biochem. Biophys. Res. Commun.* 271: 380-385.
4. Cavdar Koc, E., Burkhart, W., Blackburn, K., Moseley, A. and Spremulli, L.L. 2001. The small subunit of the mammalian mitochondrial ribosome. Identification of the full complement of ribosomal proteins present. *J. Biol. Chem.* 276: 19363-19374.
5. Kenmochi, N., Suzuki, T., Uechi, T., Magoori, M., Kuniba, M., Higa, S., Watanabe, K. and Tanaka, T. 2001. The human mitochondrial ribosomal protein genes: mapping of 54 genes to the chromosomes and implications for human disorders. *Genomics* 77: 65-70.
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.

CHROMOSOMAL LOCATION

Genetic locus: MRPS14 (human) mapping to 1q23-q25; Mrps14 (mouse) mapping to 1 H2.1.

SOURCE

MRP-S14 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRP-S14 of mouse 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-67688 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

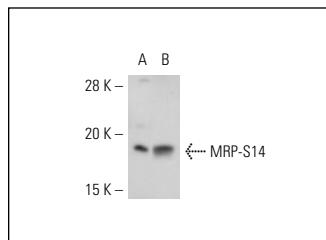
MRP-S14 (K-17) is recommended for detection of MRP-S14 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MRP-S14 siRNA (m): sc-62638.

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.

DATA



MRP-S14 (K-17): sc-67688. Western blot analysis of MRP-S14 expression in T98G (A) and NIH/3T3 (B) whole cell lysates.

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.