

MRRF (E-14): sc-165034

BACKGROUND

The termination of protein synthesis is carried out by a variety of auxiliary factors that ensure the proper release of newly formed proteins. Once translation is complete, mRNA and P-site deacylated tRNA remain attached to the ribosome in a post-termination complex (post-TC) that must be dissociated and recycled in order for another round of translation to take place. MRRF (mitochondrial ribosome recycling factor), also known as RRF, MRFF or MTRRF, is a 262 amino acid protein that belongs to the RRF (ribosome recycling factor) family. Localized to mitochondria, MRRF is required for the release of ribosomes from mRNA at the end of protein biosynthesis. Via its ability to recycle ribosomes throughout translation, MRRF may actually increase overall translational efficiency, thereby playing an important role in the rate of protein synthesis. Multiple isoforms of MRRF are expressed due to alternative splicing events.

REFERENCES

- Zhang, Y. and Spremulli, L.L. 1998. Identification and cloning of human mitochondrial translational release factor 1 and the ribosome recycling factor. *Biochim. Biophys. Acta* 1443: 245-250.
- Hansen, L.L., et al. 2000. Assignment of the human mitochondrial translational release factor 1 (MTRF1) to chromosome 13q14.1-14.3 and of the human mitochondrial ribosome recycling factor (MRRF) to chromosome 9q32-q34.1 with radiation hybrid mapping. *Cytogenet. Cell Genet.* 88: 91-92.
- Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 604602. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Hirokawa, G., et al. 2002. Binding of ribosome recycling factor to ribosomes, comparison with tRNA. *J. Biol. Chem.* 277: 35847-35852.

CHROMOSOMAL LOCATION

Genetic locus: MRRF (human) mapping to 9q33.2; Mrff (mouse) mapping to 2 B.

SOURCE

MRRF (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRRF 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-165034 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

MRRF (E-14) is recommended for detection of MRRF 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).

MRRF (E-14) is also recommended for detection of MRRF in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MRRF siRNA (h): sc-92847, MRRF siRNA (m): sc-149638, MRRF shRNA Plasmid (h): sc-92847-SH, MRRF shRNA Plasmid (m): sc-149638-SH, MRRF shRNA (h) Lentiviral Particles: sc-92847-V and MRRF shRNA (m) Lentiviral Particles: sc-149638-V.

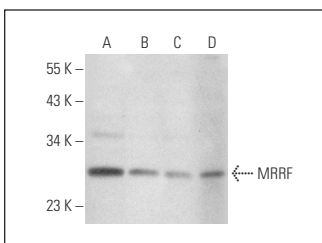
Molecular Weight of MRRF: 29 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

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



MRRF (E-14): sc-165034. Western blot analysis of MRRF expression in A-431 (A) and HeLa (B) whole cell lysates, HeLa nuclear extract (C) and mouse lung tissue extract (D).

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.