

Ribosomal Protein S14 (3G5): sc-293478

BACKGROUND

Ribosomes, the organelles that catalyze protein synthesis, are composed of a small subunit (40S) and a large subunit (60S) that consist of over 80 distinct ribosomal proteins. Mammalian ribosomal proteins are encoded by multigene families that contain processed pseudogenes and one functional intron-containing gene within their coding regions. Ribosomal Protein S14, also known as RPS14 or EMTB, is a 151 amino acid component of the small ribosomal 40S subunit. Localized to the cytoplasm, Ribosomal Protein S14 is a member of the S11P family of ribosomal proteins and is highly conserved among several species. Defects in the gene encoding Ribosomal Protein S14 may cause resistance to emetine, a protein synthesis inhibitor found in Chinese hamster ovary cells. Multiple isoforms of this protein exist due to alternative splicing events.

REFERENCES

- Martin-Nieto, J. and Roufa, D.J. 1997. Functional analysis of human RPS14 null alleles. *J. Cell Sci.* 110: 955-963.
- Fewell, S.W. 1999. Ribosomal Protein S14 of *Saccharomyces cerevisiae* regulates its expression by binding to RPS14B pre-mRNA and to 18S rRNA. *Mol. Cell. Biol.* 19: 826-834.
- Kubo, N., et al. 1999. A single nuclear transcript encoding mitochondrial RPS14 and SDHB of rice is processed by alternative splicing: common use of the same mitochondrial targeting signal for different proteins. *Proc. Natl. Acad. Sci. USA* 96: 9207-9211.
- Figueroa, P., et al. 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.
- Antúnez de Mayolo, P. 2003. Interactions of yeast Ribosomal Protein S14 with RNA. *J. Mol. Biol.* 333: 697-709.
- Jakovljevic, J., et al. 2004. The carboxy-terminal extension of yeast Ribosomal Protein S14 is necessary for maturation of 43S preribosomes. *Mol. Cell* 14: 331-342.

CHROMOSOMAL LOCATION

Genetic locus: RPS14 (human) mapping to 5q33.1; Rps14 (mouse) mapping to 18 E1.

SOURCE

Ribosomal Protein S14 (3G5) is a mouse monoclonal antibody raised against amino acids 45-144 representing partial length Ribosomal Protein S14 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Ribosomal Protein S14 (3G5) is recommended for detection of Ribosomal Protein S14 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Ribosomal Protein S14 siRNA (h): sc-62966, Ribosomal Protein S14 siRNA (m): sc-62967, Ribosomal Protein S14 shRNA Plasmid (h): sc-62966-SH, Ribosomal Protein S14 shRNA Plasmid (m): sc-62967-SH, Ribosomal Protein S14 shRNA (h) Lentiviral Particles: sc-62966-V and Ribosomal Protein S14 shRNA (m) Lentiviral Particles: sc-62967-V.

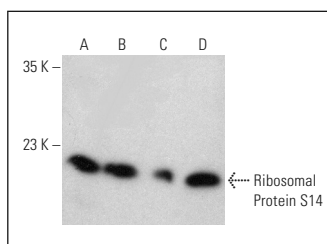
Molecular Weight of Ribosomal Protein S14: 16 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Ribosomal Protein S14 (3G5): sc-293478. Western blot analysis of Ribosomal Protein S14 expression in K-562 (A), HeLa (B), Hep G2 (C) and RPE-J (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Park, E.J., et al. 2021. Whole cigarette smoke condensates induce accumulation of amyloid β precursor protein with oxidative stress in murine astrocytes. *Toxics* 9: 150.
- Qiang, M., et al. 2021. Cockayne syndrome-associated CSA and CSB mutations impair ribosome biogenesis, ribosomal protein stability, and global protein folding. *Cells* 10: 1616.

RESEARCH USE

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