

Ribosomal Protein L4 (RQ-7): sc-100838

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 L4, also known as RPL4 or RPL1, is a 427 amino acid cytoplasmic protein that is part of the large 60S ribosomal subunit complex. A member of the L4E family of ribosomal proteins, Ribosomal Protein L4 is thought to interact with the multifunctional nucleolar protein RNA helicase II (DDX21) and, through this interaction, may mediate the involvement of DDX21 in rRNA processing. Like most other ribosomal proteins, Ribosomal Protein L4 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

1. Bagni, C., et al. 1993. Human Ribosomal Protein L4: cloning and sequencing of the cDNA and primary structure of the protein. *Biochim. Biophys. Acta* 1216: 475-478.
2. Kenmochi, N., et al. 1998. A map of 75 human ribosomal protein genes. *Genome Res.* 8: 509-523.

CHROMOSOMAL LOCATION

Genetic locus: RPL4 (human) mapping to 15q22.31; Rpl4 (mouse) mapping to 9 C.

SOURCE

Ribosomal Protein L4 (RQ-7) is a mouse monoclonal antibody raised against recombinant Ribosomal Protein L4 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.

APPLICATIONS

Ribosomal Protein L4 (RQ-7) is recommended for detection of Ribosomal Protein L4 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 Ribosomal Protein L4 siRNA (h): sc-90300, Ribosomal Protein L4 siRNA (m): sc-152923, Ribosomal Protein L4 shRNA Plasmid (h): sc-90300-SH, Ribosomal Protein L4 shRNA Plasmid (m): sc-152923-SH, Ribosomal Protein L4 shRNA (h) Lentiviral Particles: sc-90300-V and Ribosomal Protein L4 shRNA (m) Lentiviral Particles: sc-152923-V.

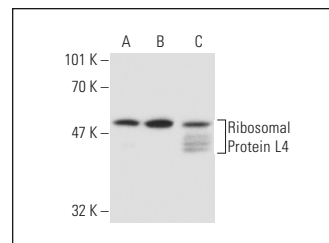
Molecular Weight of Ribosomal Protein L4: 48 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

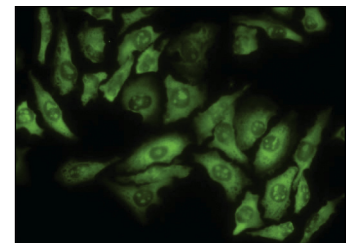
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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). 3) Immunofluorescence: use m-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ribosomal Protein L4 (RQ-7): sc-100838. Western blot analysis of Ribosomal Protein L4 expression in HeLa (A), Jurkat (B) and RAW 264.7 (C) whole cell lysates.



Ribosomal Protein L4 (RQ-7): sc-100838. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Shen, C.L., et al. 2016. Ribosome Protein L4 is essential for Epstein-Barr virus nuclear antigen 1 function. *Proc. Natl. Acad. Sci. USA* 113: 2229-2234.
2. Rincheval, V., et al. 2017. Functional organization of cytoplasmic inclusion bodies in cells infected by respiratory syncytial virus. *Nat. Commun.* 8: 563.
3. Namkoong, S., et al. 2018. Systematic characterization of stress-induced RNA granulation. *Mol. Cell* 70: 175-187.
4. Becker, A.C., et al. 2018. Influenza A Virus induces autophagosomal targeting of ribosomal proteins. *Mol. Cell. Proteomics* 17: 1909-1921.
5. Gamerding, M., et al. 2019. Early scanning of nascent polypeptides inside the ribosomal tunnel by NAC. *Mol. Cell* 75: 996-1006.
6. Yasuda, S., et al. 2020. Stress- and ubiquitylation-dependent phase separation of the proteasome. *Nature* 578: 296-300.
7. Liu, C.D., et al. 2020. B cell specific transcription activator PAX5 recruits p300 to support EBNA1-driven transcription. *J. Virol.* E-published.

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.