SANTA CRUZ BIOTECHNOLOGY, INC.

Ribosomal Protein S3 (C-7): sc-376008

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ribosomal subunits are synthesized in the nucleus, and mature 40S and 60S subunits are exported stoichiometrically into the cytoplasm. Both 40S and 60S subunits are composed of 4 RNA species and approximately 80 structurally distinct proteins. Mitochondrial ribosomes consist of a small 28S subunit and a large 39S subunit. Ribosomal proteins have the ability to pass through the nuclear envelope in the native state, making them the largest of the structures accommodated by the nuclear pore complexes. The nuclear export of ribosomal subunits is a unidirectional, saturable and energy-dependent process. Ribosomal Protein S3 a member of the 40S subunit and plays a role in translation and ribosome maturation. Specifically, Ribosomal Protein S3 mediates the formation of the mRNA binding site 3' of the codon in the decoding site. In addition, Ribosomal Protein S3 is involved in DNA damage recognition as shown by its affinity for abasic sites and 7,8-dihydro-8-oxoguanine residues and its interaction with human base excision repair (BER) proteins OGG1 and Ref-1.

REFERENCES

1. Vladimirov, S.N., et al. 1996. Characterization of the human small-ribosomal-subunit proteins by N-terminal and internal sequencing, and mass spectrometry. Eur. J. Biochem. 239: 144-149.
2. Kenmochi, N., et al. 1998. A map of 75 human ribosomal protein genes. Genome Res. 8: 509-523.

CHROMOSOMAL LOCATION

Genetic locus: RPS3 (human) mapping to 11q13.4; Rps3 (mouse) mapping to 7 E2.

SOURCE

Ribosomal Protein S3 (C-7) is a mouse monoclonal antibody raised against amino acids 1-243 representing full length Ribosomal Protein S3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ribosomal Protein S3 (C-7) is available conjugated to agarose (sc-376008 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376008 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376008 PE), fluorescein (sc-376008 FITC), Alexa Fluor® 488 (sc-376008 AF488), Alexa Fluor® 546 (sc-376008 AF546), Alexa Fluor® 594 (sc-376008 AF594) or Alexa Fluor® 647 (sc-376008 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376008 AF680) or Alexa Fluor® 790 (sc-376008 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

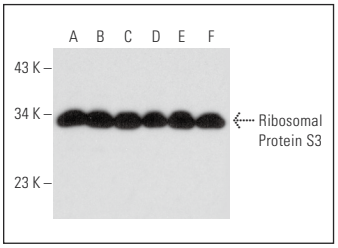
APPLICATIONS

Ribosomal Protein S3 (C-7) is recommended for detection of Ribosomal Protein S3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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). Ribosomal Protein S3 (C-7) is also recommended for detection of Ribosomal Protein S3 in additional species, including equine, canine, bovine and porcine.

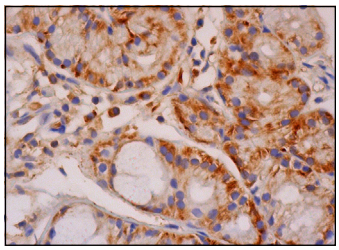
Suitable for use as control antibody for Ribosomal Protein S3 siRNA (h): sc-96950, Ribosomal Protein S3 siRNA (m): sc-152950, Ribosomal Protein S3 shRNA Plasmid (h): sc-96950-SH, Ribosomal Protein S3 shRNA Plasmid (m): sc-152950-SH, Ribosomal Protein S3 shRNA (h) Lentiviral Particles: sc-96950-V and Ribosomal Protein S3 shRNA (m) Lentiviral Particles: sc-152950-V.

Molecular Weight of Ribosomal Protein S3: 33 kDa.

DATA



Ribosomal Protein S3 (C-7): sc-376008. Western blot analysis of Ribosomal Protein S3 expression in HeLa (**A**), Raji (**B**), HEK293 (**C**), Caco-2 (**D**), Jurkat (**E**) and PC-12 (**F**) whole cell lysates.



Ribosomal Protein S3 (C-7): sc-376008. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

1. Namkoong, S., et al. 2018. Systematic characterization of stress-induced RNA granulation. Mol. Cell 70: 175-187.e8.
2. Del Toro, N., et al. 2019. Ribosomal Protein Rpl22/eL22 regulates the cell cycle by acting as an inhibitor of the Cdk4-cyclin D complex. Cell Cycle 18: 759-770.
3. Ye, C., et al. 2020. BCCIP is required for nucleolar recruitment of eIF6 and 12S pre-rRNA production during 60S ribosome biogenesis. Nucleic Acids Res. 48: 12817-12832.
4. Landry-Voyer, A.M., et al. 2020. PDCD2 functions as an evolutionarily conserved chaperone dedicated for the 40S Ribosomal Protein uS5 (RPS2). Nucleic Acids Res. 48: 12900-12916.
5. Blake, L.A., et al. 2024. A rapid inducible RNA decay system reveals fast mRNA decay in P-bodies. Nat. Commun. 15: 2720.

RESEARCH USE

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