

# Ribosomal Protein S7 (E-1): sc-377317

## 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 S7, also known as RPS7, is a 194 amino acid protein that is a component of the 40S subunit. Localized to the cytoplasm, Ribosomal Protein S7 belongs to the S7e family of ribosomal proteins and functions in protein synthesis. Ribosomal Protein S7 interacts with MDM2 and is believed to negatively regulate the MDM2-mediated degradation of p53. In addition, Ribosomal Protein S7 may play a role in ribosomal stress, linking ribosome biogenesis to cell death or cell cycle arrest. Like most ribosomal proteins, Ribosomal Protein S7 exists as multiple processed pseudogenes that are scattered throughout the genome.

## REFERENCES

- Annino, T., et al. 1995. The human Ribosomal Protein S7-encoding gene: isolation, structure and localization in 2p25. *Gene* 165: 297-302.
- Kenmochi, N., et al. 1998. A map of 75 human ribosomal protein genes. *Genome Res.* 8: 509-523.
- Malygin, A.A., et al. 2000. Proteins S7, S10, S16 and S19 of the human 40S ribosomal subunit are most resistant to dissociation by salt. *Biochim. Biophys. Acta* 1494: 213-216.

## CHROMOSOMAL LOCATION

Genetic locus: RPS7 (human) mapping to 2p25.3; Rps7 (mouse) mapping to 12 A2.

## SOURCE

Ribosomal Protein S7 (E-1) is a mouse monoclonal antibody raised against amino acids 1-194 representing full length Ribosomal Protein S7 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ribosomal Protein S7 (E-1) is available conjugated to agarose (sc-377317 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377317 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377317 PE), fluorescein (sc-377317 FITC), Alexa Fluor® 488 (sc-377317 AF488), Alexa Fluor® 546 (sc-377317 AF546), Alexa Fluor® 594 (sc-377317 AF594) or Alexa Fluor® 647 (sc-377317 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377317 AF680) or Alexa Fluor® 790 (sc-377317 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## 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 S7 (E-1) is recommended for detection of Ribosomal Protein S7 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).

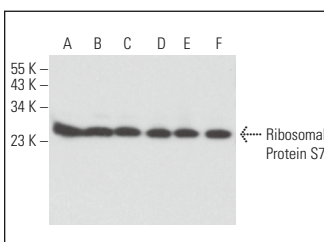
Ribosomal Protein S7 (E-1) is also recommended for detection of Ribosomal Protein S7 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Ribosomal Protein S7 siRNA (h): sc-106511, Ribosomal Protein S7 siRNA (m): sc-152952, Ribosomal Protein S7 shRNA Plasmid (h): sc-106511-SH, Ribosomal Protein S7 shRNA Plasmid (m): sc-152952-SH, Ribosomal Protein S7 shRNA (h) Lentiviral Particles: sc-106511-V and Ribosomal Protein S7 shRNA (m) Lentiviral Particles: sc-152952-V.

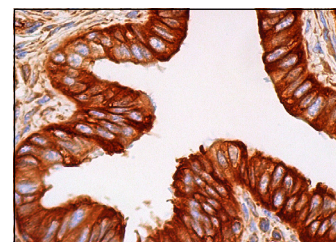
Molecular Weight of Ribosomal Protein S7: 22 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or IMR-32 cell lysate: sc-2409.

## DATA



Ribosomal Protein S7 (E-1): sc-377317. Western blot analysis of Ribosomal Protein S7 expression in Jurkat (A), IMR-32 (B), PC-3 (C), SP2/O (D), NIH/3T3 (E) and RPE-J (F) whole cell lysates.



Ribosomal Protein S7 (E-1): sc-377317. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and membrane staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Calderón-González, K.G., et al. 2015. Determination of the protein expression profiles of breast cancer cell lines by quantitative proteomics using iTRAQ labelling and tandem mass spectrometry. *J. Proteomics* 124: 50-78.
- Gerassimovich, Y.A., et al. 2021. Proximity-dependent biotinylation detects associations between SARS coronavirus nonstructural protein 1 and stress granule-associated proteins. *J. Biol. Chem.* 297: 101399.
- Papagiannopoulos, C.I., et al. 2022. Invariable ribosome stoichiometry during murine erythroid differentiation: implications for understanding ribosomopathies. *Front. Mol. Biosci.* 9: 805541.

## RESEARCH USE

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