

Rabbit RPS3 Polyclonal Antibody | anti-RPS3 antibody

RPS3 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326742	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

RPS3; Polyclonal Antibody; RPS3 Antibody; 40S ribosomal protein S3; fb13d09; FLJ26283; FLJ27450; IMR 90 ribosomal protein S3; MGC56088; MGC87870; OTTHUMP00000229804; OTTHUMP00000229805; OTTHUMP00000229874; OTTHUMP00000229877; OTTHUMP00000229878; OTTHUMP00000229879; OTTHUMP00000229880; OTTHUMP00000229882; OTTHUMP00000229883; OTTHUMP00000229886; Ribosomal protein S3; rps3; RS3_HUMAN; S3; wu:fb13d09; zgc:56088; anti-RPS3 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	RPS3 antibody detects endogenous levels of total RPS3
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	243
Applicable Applications for anti-RPS3 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human RPS3
Subcellular Location	Cytoplasm. Localized in cytoplasmic mRNP granules containing untranslated mRNAs.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA326742 staining HepG2 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of Hepg2 whole cell lysates, using RPS3 Antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA326742 at 1/100 staining Human spleen tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Related Product Information for anti-RPS3 antibody

Description: Ribosomes, the organelles that catalyze protein synthesis, consist of a small 40S subunit and a large 60S subunit. Together these subunits are composed of 4 RNA species and approximately 80 structurally distinct proteins. This gene encodes a ribosomal protein that is a component of the 40S subunit, where it forms part of the domain where translation is initiated. The protein belongs to the S3P family of ribosomal proteins. Studies of the mouse and rat proteins have demonstrated that the protein has an extraribosomal role as an endonuclease involved in the repair of UV-induced DNA damage. The protein appears to be located in both the cytoplasm and nucleus but not in the nucleolus. Higher levels of expression of this gene in colon adenocarcinomas and adenomatous polyps compared to adjacent normal colonic mucosa have been observed. This gene is co-transcribed with the small nucleolar RNA genes U15A and U15B, which are located in its first and fifth introns, respectively. As is typical for genes encoding ribosomal proteins, there are multiple processed pseudogenes of this gene dispersed through the genome. Multiple alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Function: Involved in translation as a component of the 40S small ribosomal subunit (PubMed:8706699). Has endonuclease activity and plays a role in repair of damaged DNA (PubMed:7775413). Cleaves phosphodiester bonds of DNAs containing altered bases with broad specificity and cleaves supercoiled DNA more efficiently than relaxed DNA (PubMed:15707971). Displays high binding affinity for 7, 8-dihydro-8-oxoguanine (8-oxoG), a common DNA lesion caused by reactive oxygen species (ROS) (PubMed:14706345). Has also been shown to bind with similar affinity to intact and damaged DNA (PubMed:18610840). Stimulates the N-glycosylase activity of the base excision protein OGG1 (PubMed:15518571). Enhances the uracil excision activity of UNG1 (PubMed:18973764). Also stimulates the cleavage of the phosphodiester backbone by APEX1 (PubMed:18973764). When located in the mitochondrion, reduces cellular ROS levels and mitochondrial DNA damage (PubMed:23911537). Has also been shown to negatively regulate DNA repair in cells exposed to hydrogen peroxide (PubMed:17049931). Plays a role in regulating transcription as part of the NF-kappa-B p65-p50 complex where it binds to the RELA/p65 subunit, enhances binding of the complex to DNA and promotes transcription of target genes (PubMed:18045535). Represses its own translation by binding to its cognate mRNA (PubMed:20217897). Binds to and protects TP53/p53 from MDM2-mediated ubiquitination (PubMed:19656744). Involved in spindle formation and chromosome movement during mitosis by regulating microtubule polymerization (PubMed:23131551). Involved in induction of apoptosis through its role in activation of CASP8 (PubMed:14988002). Induces neuronal apoptosis by interacting with the E2F1 transcription factor and acting synergistically with it to up-regulate pro-apoptotic proteins BCL2L11/BIM and HRK/Dp5 (PubMed:20605787). Interacts with TRADD following exposure to UV radiation and induces apoptosis by caspase-dependent JNK activation (PubMed:22510408).

Subunit Structure: Component of the 40S small ribosomal subunit (PubMed:8706699). Identified in a IGF2BP1-dependent mRNP granule complex containing untranslated mRNAs (PubMed:17289661). Interacts with HNRPD (PubMed:24423872). Interacts with PRMT1; the interaction methylates RPS3 (PubMed:19460357). Interacts with SUMO1; the interaction sumoylates RPS3 (PubMed:21968017). Interacts with UBC9 (PubMed:21968017). Interacts with CDK1; the interaction phosphorylates RPS3 (PubMed:21871177). Interacts with PRKCD; the interaction phosphorylates RPS3 (PubMed:19059439). Interacts with PKB/AKT; the interaction phosphorylates RPS3 (PubMed:20605787). Interacts with E2F1; the interaction occurs in the absence of nerve growth factor and increases transcription of pro-apoptotic proteins BCL2L11/BIM and HRK/Dp5 (PubMed:20605787). Interacts with the base excision repair proteins APEX1 and OGG1; interaction with OGG1 increases OGG1 N-glycosylase activity (PubMed:15518571). Interacts with UNG; the interaction increases the uracil excision activity of UNG1 (PubMed:18973764). Interacts with HSP90; the interaction prevents the ubiquitination and proteasome-dependent degradation of RPS3 and is suppressed by increased ROS levels (PubMed:16314389). Interacts with TOM70; the interaction promotes translocation of RPS3 to the mitochondrion (PubMed:23911537). Interacts (via N-terminus) with RELA (via N-terminus); the interaction enhances the DNA-binding activity of the NF-kappa-B p65-p50 complex (PubMed:18045535). Interacts with NFKBIA; the interaction is direct and may bridge the interaction between RPS3 and RELA (PubMed:24457201). Interacts with IKKB; the interaction phosphorylates RPS3 and enhances its translocation to the nucleus (PubMed:21399639). Interacts (via KH domain) with MDM2 and TP53 (PubMed:19656744). Interacts with TRADD (PubMed:22510408). Interacts (via N-terminus) with E.coli O157:H7 (strain EDL933) nleH1 and nleH2; the interaction with nleH1 inhibits phosphorylation by IKKB, reduces RPS3 nuclear abundance and inhibits transcriptional activation by the NF-kappa-B p65-p50 complex (PubMed:20041225, PubMed:21399639). Identified in a HCV IRES-mediated translation complex, at least composed of EIF3C, IGF2BP1, RPS3 and HCV RNA-replicon (PubMed:19541769). Interacts with CRY1 (By similarity).

Post-translational Modifications: Methylation by PRMT1 is required for import into the nucleolus and for ribosome assembly. Sumoylation by SUMO1 enhances protein stability through increased resistance to proteolysis. Sumoylation occurs at one or more of the three consensus sites, Lys-18, Lys-214 and Lys-230. Phosphorylation at Thr-221 by CDK1 occurs mainly in G2/M phase (PubMed:21871177). Phosphorylation by PRKCD occurs on a non-ribosomal-associated form which results in translocation of RPS3 to the nucleus and enhances its endonuclease activity (PubMed:19059439). Phosphorylated on Ser-209 by IKKB in response to activation of the NF-kappa-B p65-p50 complex which enhances the association of RPS3 with importin-alpha and mediates the nuclear translocation of RPS3 (PubMed:21399639). Phosphorylation by MAPK is required for translocation to the nucleus following exposure of cells to DNA damaging agents such as hydrogen peroxide (PubMed:17560175). Phosphorylation by PKB/AKT mediates RPS3 nuclear translocation, enhances RPS3 endonuclease activity and suppresses RPS3-induced neuronal apoptosis (PubMed:20605787). Ubiquitinated (PubMed:16314389). This is prevented by interaction with HSP90 which stabilizes the protein (PubMed:16314389). Monoubiquitinated at Lys-214 by ZNF598 when a ribosome has stalled during translation of poly(A) sequences, leading to preclude synthesis of a long polylysine tail and initiate the ribosome quality control (RQC) pathway to degrade the potentially detrimental aberrant nascent polypeptide (PubMed:28065601, PubMed:28132843).

Similarity: Belongs to the universal ribosomal protein uS3 family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	15718687
NCBI GeneID	6188
NCBI Accession #	NP_000996.2
NCBI GenBank Nucleotide #	NM_001005.4
UniProt Accession #	P23396; Q498B5; Q8NI95; B2R7N5; J3KN86
Molecular Weight	Observed: 26 kDa Predicted: 27 kDa
NCBI Official Full Name	40S ribosomal protein S3 isoform 1
NCBI Official Synonym Full Names	ribosomal protein S3
NCBI Official Symbol	RPS3
NCBI Official Synonym Symbols	S3
NCBI Protein Information	40S ribosomal protein S3
UniProt Protein Name	40S ribosomal protein S3
UniProt Gene Name	RPS3

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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