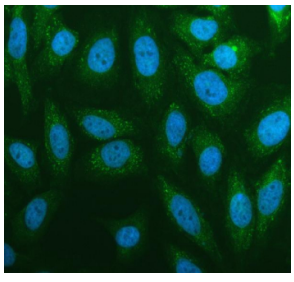
RPS3A Antibody / 40S ribosomal protein S3a (FY12541)

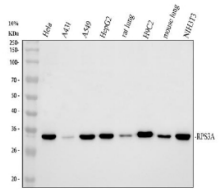
Catalog No.	Formulation	Size
FY12541	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

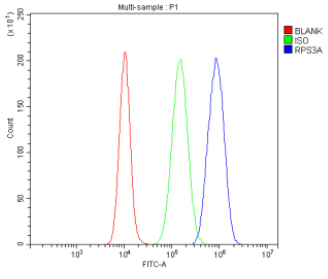
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P61247
Localization	Cytoplasmic, Nucleolar
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This RPS3A antibody is available for research use only.



Immunofluorescent staining of RPS3A using anti-RPS3A antibody (green). RPS3A was detected in an immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-RPS3A antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of RPS3A using anti-RPS3A antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human HepG2 whole cell lysates, Lane 5: rat lung tissue lysates, Lane 6: rat H9C2 whole cell lysates, Lane 7: mouse lung tissue lysates, Lane 8: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-RPS3A antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. RPS3A (~30 kDa predicted) was detected at ~34-35 kDa, consistent with the known upward mobility shift of basic ribosomal proteins caused by phosphorylation and reduced SDS binding.



Flow Cytometry analysis of cells using anti-RPS3A antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-RPS3A antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

RPS3A antibody detects 40S ribosomal protein S3a, a structural component of the small ribosomal subunit that plays essential roles in translation initiation and ribosome assembly. Beyond its function in protein synthesis, RPS3A has extra-ribosomal roles in apoptosis, cell proliferation, and stress response. The RPS3A antibody is used in studies of ribosome biogenesis, cancer, and cellular metabolism.

RPS3A is encoded by the RPS3A gene on human chromosome 4q31.3. The protein is approximately 30 kilodaltons and associates with 18S rRNA in the 40S ribosomal subunit. It stabilizes rRNA folding and coordinates interactions between ribosomal proteins during translation initiation. RPS3A expression is ubiquitous but particularly elevated in rapidly dividing cells, reflecting its link to growth and biosynthetic capacity.

The RPS3A antibody detects a 30 kilodalton protein by western blot and shows cytoplasmic and nucleolar staining under immunofluorescence. RPS3A interacts with translation initiation factors and regulates mRNA selection and ribosome recruitment. It also influences mitochondrial protein synthesis and cellular energy metabolism.

Outside the ribosome, RPS3A acts as a signaling modulator, interacting with viral proteins, apoptotic regulators, and stress response factors. Overexpression of RPS3A confers resistance to apoptosis and contributes to oncogenic transformation, while knockdown induces cell cycle arrest and autophagy. Elevated RPS3A expression has been detected in breast, liver, and lung cancers, correlating with poor prognosis and aggressive tumor behavior.

Due to its dual role in translation and signaling, RPS3A serves as a valuable biomarker for cell proliferation and stress adaptation. NSJ Bioreagents provides a validated RPS3A antibody optimized for western blot, immunocytochemistry, and ribosome profiling, supporting research into translational regulation, protein synthesis, and oncogenic growth control.

Application Notes

Optimal dilution of the RPS3A antibody should be determined by the researcher.

Immunogen

E.coli-derived human RPS3A recombinant protein (Position: K18-R146) was used as the immunogen for the RPS3A antibody.

Storage

After reconstitution, the RPS3A antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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