

# 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
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
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.

## **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.