

RPL14 Antibody / 60S ribosomal protein L14 (FY12513)

Catalog No.	Formulation	Size
FY12513	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	P50914
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This RPL14 antibody is available for research use only.

Description

RPL14 antibody detects 60S ribosomal protein L14, a structural component of the large ribosomal subunit involved in translation and ribosome assembly. RPL14 is one of approximately 80 ribosomal proteins that form the functional ribosome, catalyzing peptide bond formation and mRNA decoding. The RPL14 antibody is used in studies of ribosome biogenesis, translational control, and nucleolar organization.

RPL14 is encoded by the RPL14 gene located on human chromosome 3p21.3. The protein is about 23 kilodaltons and localizes predominantly in the cytoplasm and nucleolus. RPL14 integrates into the 60S ribosomal subunit near the peptidyl transferase center, stabilizing interactions between rRNA and ribosomal proteins during translation. Through these roles, RPL14 ensures accuracy and efficiency of protein synthesis.

The RPL14 antibody detects a 23 kilodalton band on western blot and demonstrates both cytoplasmic and nucleolar staining by immunofluorescence. RPL14 expression correlates with proliferative activity, and its upregulation is often seen in rapidly dividing cells or tumors. Inhibition of RPL14 synthesis activates ribosomal stress pathways, leading to p53

stabilization and growth arrest. Mutations or pseudogene-derived transcripts of RPL14 may contribute to tumorigenesis or ribosomopathies characterized by anemia and developmental defects.

Beyond translation, RPL14 participates in extra-ribosomal functions, including regulation of apoptosis and cell cycle progression. Under stress conditions, RPL14 can interact with transcription factors or signaling proteins, modulating gene expression independent of ribosome assembly. Proteomic studies have also detected RPL14 in mitochondrial ribosome fractions, suggesting roles in organelle-specific translation.

Because ribosomal proteins are frequently deregulated in cancer, RPL14 serves as a biomarker for tumor cell proliferation and ribosome biogenesis activity. Elevated expression has been observed in colorectal, breast, and ovarian cancers, correlating with poor prognosis. Conversely, knockdown of RPL14 reduces protein synthesis and inhibits tumor growth. NSJ Bioreagents provides a validated RPL14 antibody optimized for western blot, immunocytochemistry, and ribosomal complex analysis, supporting exploration of translation dynamics, nucleolar function, and cancer-related ribosome biology.

Application Notes

Optimal dilution of the RPL14 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RPL14 recombinant protein (Position: M1-A207) was used as the immunogen for the RPL14 antibody.

Storage

After reconstitution, the RPL14 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.