RPL27 Antibody / 60S ribosomal protein L27 (FY13270)

Catalog No.	Formulation	Size
FY13270	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	P61353
Applications	Western Blot : 0.25-0.5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This RPL27 antibody is available for research use only.

Description

RPL27 antibody detects 60S ribosomal protein L27, a structural component of the large ribosomal subunit that plays a vital role in protein synthesis. The UniProt recommended name is 60S ribosomal protein L27 (RPL27). As part of the ribosome's peptidyl transferase center, RPL27 contributes to rRNA stabilization, ribosome assembly, and elongation during translation.

Functionally, RPL27 antibody identifies a 136-amino-acid basic protein located in the cytoplasm and nucleus. RPL27 integrates into the 60S ribosomal subunit where it binds to 28S rRNA and helps maintain the structural framework necessary for catalytic activity during peptide bond formation. It interacts with ribosomal proteins such as RPL10 and RPL23, forming contacts that ensure ribosome stability and proper subunit joining. RPL27 also plays a role in ribosome biogenesis within the nucleolus, participating in pre-rRNA processing and export of mature ribosomal particles to the cytoplasm.

The RPL27 gene is located on chromosome 17q21.31 and is expressed ubiquitously in all actively proliferating cells. Expression levels correlate with translational demand, increasing during cell growth, tissue regeneration, and tumor

progression. RPL27, like many ribosomal proteins, is co-transcribed with small nucleolar RNAs that regulate rRNA modification.

Pathologically, altered RPL27 expression has been associated with cancer and ribosomopathies. Overexpression promotes tumor cell proliferation by enhancing global translation and activating oncogenic pathways, while ribosomal stress due to RPL27 deficiency triggers p53 stabilization and apoptosis. RPL27 mutations may contribute to bone marrow failure syndromes and developmental disorders linked to impaired ribosome function. Research using RPL27 antibody supports studies in translation regulation, cancer metabolism, and ribosome assembly.

RPL27 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect ribosomal proteins. NSJ Bioreagents provides RPL27 antibody reagents optimized for studies in ribosome biogenesis, translational control, and cellular growth mechanisms.

Structurally, 60S ribosomal protein L27 is composed of alpha-helical segments that interface with rRNA and neighboring ribosomal proteins, stabilizing the peptidyl transferase center. Its compact fold enables close packing within the ribosome's core. This antibody enables detailed examination of RPL27's role in ribosome assembly, translational fidelity, and cellular protein synthesis regulation.

Application Notes

Optimal dilution of the RPL27 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RPL27 recombinant protein (Position: M1-R108) was used as the immunogen for the RPL27 antibody.

Storage

After reconstitution, the RPL27 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.