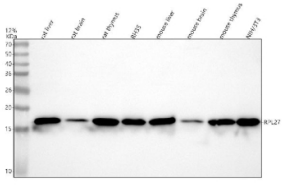
# RPL27 Antibody / 60S ribosomal protein L27 (FY13270)

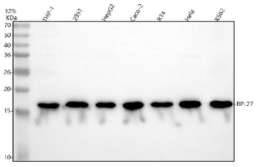
| Catalog No. | Formulation | Size |
|---|---|---|
| FY13270 | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml | 100 ug |

**Bulk quote request**

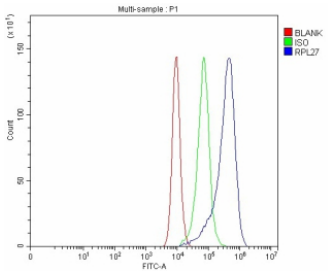
| | |
|---|---|
| **Availability** | 1-2 days |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Lyophilized |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Immunogen affinity purified |
| **Buffer** | Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4. |
| **UniProt** | P61353 |
| **Applications** | Western Blot: 0.25-0.5ug/ml<br>Immunoprecipitation: 2-4ug/500ug of lysate<br>Flow cytometry: 1-3ug/million cells<br>ELISA: 0.1-0.5ug/ml |
| **Limitations** | This RPL27 antibody is available for research use only. |



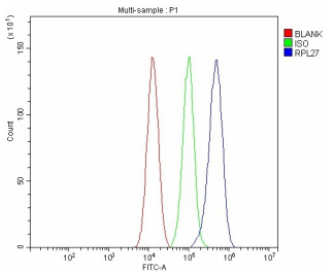
Western blot analysis of RPL27 using anti-RPL27 antibody. Lane 1: rat liver tissue lysates, Lane 2: rat brain tissue lysates, Lane 3: rat thymus tissue lysates, Lane 4: rat RH35 whole cell lysates, Lane 5: mouse liver tissue lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse thymus tissue lysates, 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-RPL27 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 enhanced chemiluminescent. A specific band was detected for RPL27 at approximately 16 kDa. The expected molecular weight of RPL27 is ~16 kDa.



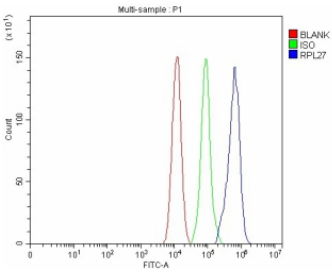
Western blot analysis of RPL27 using anti-RPL27 antibody. Lane 1: human THP-1 whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human Caco-2 whole cell lysates, Lane 5: human RT4 whole cell lysates, Lane 6: human Hela whole cell lysates, Lane 8: human K562 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-RPL27 antibody at 0.25 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 enhanced chemiluminescent. A specific band was detected for RPL27 at approximately 16 kDa. The expected molecular weight of RPL27 is ~16 kDa.



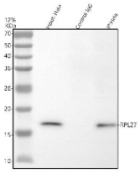

Flow Cytometry analysis of CACO-2 cells using anti-RPL27 antibody. Overlay histogram showing CACO-2 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-RPL27 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.




Flow Cytometry analysis of NIH/3T3 cells using anti-RPL27 antibody. Overlay histogram showing NIH/3T3 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-RPL27 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.




Flow Cytometry analysis of RH35 cells using anti-RPL27 antibody. Overlay histogram showing RH35 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-RPL27 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.



Immunoprecipitating RPL27 in Hela whole cell lysate. Western blot analysis of RPL27 using anti-RPL27 antibody. Lane 1: Hela whole cell lysates (30ug) Lane 2: Rabbit control IgG instead of anti-RPL27 antibody in Hela whole cell lysate. Lane 3: anti-RPL27 antibody (2ug) + Hela whole cell lysate (500ug) After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-RPL27 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. A specific band was detected for RPL27 at approximately 16 kDa. The expected molecular weight of RPL27 is at 16 kDa.

## 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.

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