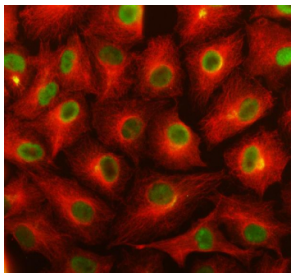
TSR1 Antibody / Pre-rRNA-processing protein TSR1 (FY12500)

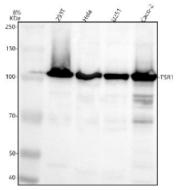
Catalog No.	Formulation	Size
FY12500	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

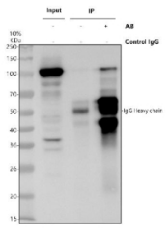
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q2NL82
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Immunoprecipitation: 2-4ug/500ug of lysate Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This TSR1 antibody is available for research use only.



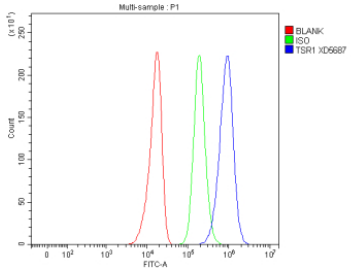
Immunofluorescent staining of TSR1 using anti-TSR1 antibody (green) and anti-Alpha Tubulin antibody (red). TSR1 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-TSR1 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of TSR1 using anti-TSR1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human 293T whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human U251 whole cell lysates, Lane 4: human Caco-2 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-TSR1 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. TSR1 (~92 kDa predicted) was detected as a band just above ~100 kDa in multiple human cell lines, consistent with previously reported SDS-PAGE migration of endogenous TSR1 in studies of human pre-40S ribosome biogenesis.



Immunoprecipitation of TSR1 in Hela whole cell lysate. Western blot analysis of TSR1 using anti-TSR1 antibody. Lane 1: Hela whole cell lysates (30ug), Lane 2: Rabbit control IgG instead of anti-TSR1 antibody in Hela whole cell lysate, Lane 3: anti-TSR1 antibody (2ug) + Hela whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-TSR1 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. The expected molecular weight of TSR1 is ~92 kDa.



Flow Cytometry analysis of U251 cells using anti-TSR1 antibody. Overlay histogram showing U251 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-TSR1 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

TSR1 antibody detects Pre-rRNA-processing protein TSR1 homolog, a ribosome biogenesis factor required for the maturation of the small ribosomal subunit (40S). TSR1 is an essential nucleolar protein that participates in the late stages of pre-18S rRNA processing, ensuring proper ribosome assembly and translation efficiency. The TSR1 antibody is used in studies of ribosome formation, RNA metabolism, and cellular growth control.

TSR1 is encoded by the TSR1 gene located on human chromosome 17q25.3. The protein is approximately 88 kilodaltons and conserved across eukaryotes, underscoring its critical role in ribosome biogenesis. TSR1 associates with pre-ribosomal particles in the nucleolus and cytoplasm and functions during the transition of 90S to 40S ribosomal precursors. It acts as a structural scaffold that stabilizes pre-rRNA intermediates and recruits processing enzymes necessary for final 18S rRNA cleavage.

The TSR1 antibody typically detects an 88-90 kilodalton band on western blot and is useful for immunofluorescence studies showing nucleolar and cytoplasmic localization. Knockdown or mutation of TSR1 disrupts ribosome biogenesis, leading to impaired protein synthesis and activation of nucleolar stress pathways such as p53 stabilization. As a core assembly factor, TSR1 interacts with RIO kinases, NOB1, and other late-acting ribosome maturation proteins.

In addition to its canonical role in ribosome formation, TSR1 may contribute to cell cycle progression and proliferation through its control of global translation. Aberrant expression of TSR1 has been observed in several cancers, suggesting a

link between elevated ribosome production and tumorigenesis. NSJ Bioreagents provides a validated TSR1 antibody, supporting detailed studies of ribosome assembly, nucleolar dynamics, and translation regulation.

Application Notes

Optimal dilution of the TSR1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TSR1 recombinant protein (Position: D224-V723) was used as the immunogen for the TSR1 antibody.

Storage

After reconstitution, the TSR1 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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