

MALSU1 Antibody / Mitochondrial assembly of ribosomal large subunit protein 1 (FY12417)

Catalog No.	Formulation	Size
FY12417	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human
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 Na ₂ HPO ₄ .
UniProt	Q96EH3
Applications	ELISA : 0.1-0.5ug/ml Flow Cytometry : 1-3ug/million cells Immunofluorescence : 5ug/ml Immunohistochemistry : 2-5ug/ml Western Blot : 0.25-0.5ug/ml
Limitations	This MALSU1 antibody is available for research use only.

Description

The MALSU1 antibody targets Mitochondrial assembly of ribosomal large subunit protein 1, a mitochondrial protein encoded by the MALSU1 gene. This factor participates in the biogenesis of the 39S mitochondrial ribosomal subunit and is essential for proper assembly of the mitochondrial translation machinery. Mitochondrial assembly of ribosomal large subunit protein 1 acts as a negative regulator that prevents premature subunit joining, ensuring accurate ribosome formation and translation initiation. The MALSU1 antibody allows researchers to study mitochondrial protein synthesis, ribosomal quality control, and bioenergetic regulation.

Mitochondrial assembly of ribosomal large subunit protein 1 interacts with mitochondrial ribosomal proteins and assembly chaperones such as GTPBP10 and LOR8F8. It forms part of a transient anti-association module that maintains 39S subunits in an assembly-competent state. The MALSU1 antibody supports localization and co-immunoprecipitation studies that clarify its role in controlling mitoribosome biogenesis. Loss of MALSU1 results in defective translation and respiratory-chain deficiency, highlighting its importance for mitochondrial function.

Because mitochondrial protein synthesis is required for oxidative phosphorylation, disruption of MALSU1 impairs ATP production and promotes metabolic dysfunction. The MALSU1 antibody supports functional analyses in models of mitochondrial disease, helping quantify expression and assembly defects. By stabilizing immature ribosomal subunits, MALSU1 safeguards the fidelity of mitochondrial translation, contributing to overall cellular energy homeostasis.

Beyond mitochondrial biogenesis, Mitochondrial assembly of ribosomal large subunit protein 1 has been implicated in apoptosis regulation and stress adaptation. Its expression increases during mitochondrial stress to support recovery of ribosome integrity. The MALSU1 antibody enables investigation of these adaptive responses, providing insight into how mitochondrial translation is coordinated with quality-control pathways.

The MALSU1 antibody performs effectively in western blotting, immunofluorescence, and immunohistochemistry, producing punctate mitochondrial staining consistent with its subcellular localization. NSJ Bioreagents provides this antibody as a validated, high-specificity reagent for mitochondrial biology, metabolism, and molecular-genetics research. By enabling precise detection of Mitochondrial assembly of ribosomal large subunit protein 1, the MALSU1 antibody supports discovery into mitochondrial ribosome assembly and its role in energy metabolism and disease.

Application Notes

Optimal dilution of the MALSU1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MALSU1 recombinant protein (Position: A30-E234) was used as the immunogen for the MALSU1 antibody.

Storage

After reconstitution, the MALSU1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.