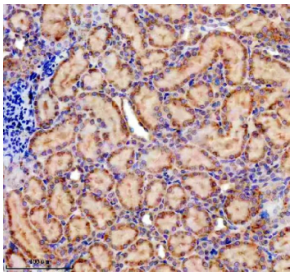
PELO Antibody / Protein pelota homolog (FY13452)

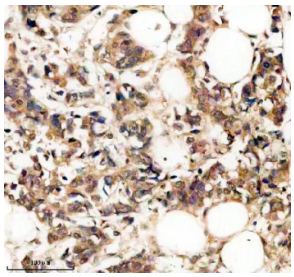
Catalog No.	Formulation	Size
FY13452	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

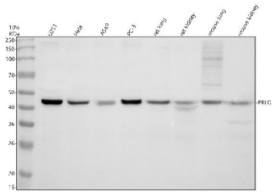
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
UniProt	Q9BRX2
Localization	Cytoplasm
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml
Limitations	This PELO antibody is available for research use only.



Immunohistochemistry analysis of Protein pelota homolog using PELO antibody. PELO expression was examined in a paraffin-embedded section of rat kidney tissue. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0). Tissue sections were blocked with normal goat serum and incubated with PELO antibody overnight at 4C. Immunoreactivity is observed predominantly in renal tubular epithelial cells, with minimal staining in surrounding stromal areas. Detection was visualized using an HRP-based detection system with DAB chromogen, followed by hematoxylin counterstaining.



Immunohistochemistry analysis of Protein pelota homolog using PELO antibody. PELO expression was examined in a paraffin-embedded section of human breast cancer tissue. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0). Tissue sections were blocked with normal goat serum and incubated with PELO antibody overnight at 4C. Immunoreactivity is observed within tumor epithelial cells, consistent with cytoplasmic localization, with variable staining intensity across the tumor field. Detection was visualized using an HRP-based detection system with DAB chromogen, followed by hematoxylin counterstaining.



Western blot analysis of PELO using PELO antibody. Protein lysates from human U251 cells (Lane 1), human HeLa cells (Lane 2), human A549 cells (Lane 3), human PC-3 cells (Lane 4), rat lung tissue (Lane 5), rat kidney tissue (Lane 6), mouse lung tissue (Lane 7), and mouse kidney tissue (Lane 8) were resolved by SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. PELO was detected as a band at approximately 43 kDa, consistent with the predicted molecular weight of Protein pelota homolog. Detection was performed using an HRP-based secondary antibody and chemiluminescent substrate.

Description

PELO antibody targets Protein pelota homolog, encoded by the PELO gene. Protein pelota homolog is a highly conserved cytoplasmic protein that plays a central role in ribosome-associated quality control and mRNA surveillance. It is the mammalian homolog of yeast Dom34 and functions in pathways that recognize and resolve stalled ribosomes during translation, thereby maintaining translational fidelity and cellular homeostasis.

Protein pelota homolog operates in concert with factors such as HBS1L to promote ribosome recycling when translation is disrupted by defective mRNAs or stalled elongation complexes. Through this mechanism, PELO supports the dissociation of stalled ribosomes and facilitates downstream mRNA decay pathways, including no-go decay. A PELO antibody supports studies focused on translational control, ribosome quality control, and mRNA surveillance mechanisms.

PELO is predominantly localized to the cytoplasm, consistent with its direct involvement in translation and ribosome-associated processes. Its widespread expression across tissues reflects a fundamental housekeeping role rather than tissue-restricted specialization. By safeguarding translational efficiency and preventing accumulation of aberrant ribosome complexes, Protein pelota homolog contributes to cellular stress tolerance and proteostasis.

From a biological and disease-related perspective, Protein pelota homolog has been investigated in the context of development, cell proliferation, and neurological function. Disruption of PELO-dependent ribosome rescue pathways can impair protein synthesis capacity and has been linked to defects in embryonic development and tissue maintenance. These findings highlight the importance of PELO in sustaining normal cellular growth and viability under both basal and stress conditions.

At the molecular level, Protein pelota homolog contains conserved structural features required for ribosome binding and interaction with translation-associated factors. Its activity is regulated by cellular context and translational demand rather than by post-translational modification-driven activation. PELO antibody reagents enable investigation of ribosome rescue pathways and translational quality control, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

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

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human Protein pelota homolog was used as the immunogen for the PELO antibody.

Storage

After reconstitution, the PELO 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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