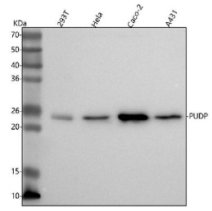
PUDP Antibody / Pseudouridine 5-phosphatase (FY12870)

Catalog No.	Formulation	Size
FY12870	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
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	Q08623
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This PUDP antibody is available for research use only.



Western blot analysis of PUDP using anti-PUDP antibody. Lane 1: human 293T whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human Caco-2 whole cell lysates, Lane 4: human 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-PUDP 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 PUDP at approximately 25 kDa. The expected molecular weight of PUDP is ~25 kDa.

Description

PUDP antibody detects Pseudouridine 5'-phosphatase, an enzyme involved in nucleotide metabolism and RNA modification recycling. Encoded by the PUDP gene on chromosome 10q23.31, this enzyme catalyzes the dephosphorylation of pseudouridine 5'-phosphate, a modified nucleoside derived from RNA turnover. By recycling pseudouridine into usable intermediates, PUDP contributes to nucleotide homeostasis and RNA degradation pathways

essential for cellular metabolism.

PUDP is a member of the haloacid dehalogenase (HAD) superfamily of hydrolases and shares structural features with sugar phosphatases, including a conserved catalytic Asp residue that facilitates phosphate hydrolysis. The enzyme functions primarily in the cytoplasm and exhibits substrate specificity for pseudouridine monophosphate over canonical nucleotides. PUDP activity supports RNA salvage by clearing modified nucleosides generated from rRNA and tRNA decay.

The PUDP antibody is used in enzymology, RNA metabolism, and nucleotide biochemistry research to study RNA turnover and modified nucleotide processing. Western blot analysis identifies a 31 kilodalton band corresponding to PUDP, while immunofluorescence shows diffuse cytoplasmic localization consistent with its metabolic role. This antibody provides a useful reagent for monitoring nucleotide recycling and evaluating enzymatic regulation in metabolic and stress-response pathways.

Altered expression of PUDP has been associated with cancer, where metabolic reprogramming changes nucleotide flux and RNA stability. By participating in modified nucleotide clearance, PUDP helps maintain nucleotide pool balance and prevents accumulation of potentially toxic intermediates. The PUDP antibody supports studies into RNA degradation, nucleotide recycling, and metabolic adaptation. NSJ Bioreagents validates this antibody for its applications ensuring specificity and reproducibility for nucleotide metabolism research.

Application Notes

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

Immunogen

E.coli-derived human PUDP recombinant protein (Position: M1-E228) was used as the immunogen for the PUDP antibody.

Storage

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