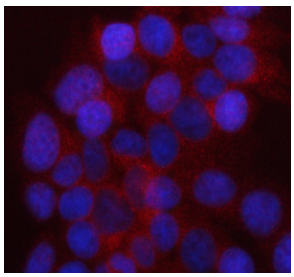
UAP1L1 Antibody / UDP-GlcNAc Pyrophosphorylase Antibody (FY13515)

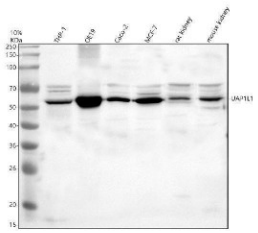
Catalog No.	Formulation	Size
FY13515	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4
UniProt	Q3KQV9
Applications	Western Blot: 0.5-1ug/ml ELISA: 0.1-0.5ug/ml Immunofluorescence: 5ug/ml
Limitations	This UAP1L1 Antibody / UDP-GlcNAc Pyrophosphorylase Antibody is available for research use only.



UAP1L1 Antibody by IF in Human MCF-7 Breast Cancer Cells. Immunofluorescence staining of human MCF-7 cells using rabbit polyclonal UAP1L1 antibody at 5 ug/ml. Enzymatic antigen retrieval was performed for 15 minutes, followed by blocking with 10% goat serum and overnight primary antibody incubation at 4oC. Cy3-conjugated goat anti-rabbit IgG was applied at 1:500 for 30 minutes at 37oC, and nuclei were counterstained with DAPI. Red fluorescence demonstrates UDP-GlcNAc Pyrophosphorylase-related protein UAP1L1 immunoreactivity, predominantly distributed throughout the cytoplasm with a diffuse, finely granular appearance. The blue DAPI-stained nuclei exhibit comparatively little red fluorescence.



UAP1L1 Antibody by WB in Human Cell Lines and Rodent Kidney Tissue. Western blot analysis of human THP-14, OE19, Caco-2, and MCF-7 whole-cell lysates, rat kidney tissue lysate, and mouse kidney tissue lysate using rabbit polyclonal UAP1L1 antibody at 0.5 ug/ml. Lanes 1-6 correspond to THP-14, OE19, Caco-2, MCF-7, rat kidney, and mouse kidney, respectively. Samples containing 30 ug of protein per lane were separated by 10% SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. Following overnight primary antibody incubation at 4oC, detection was performed using HRP-conjugated goat anti-rabbit IgG at 1:5000 and chemiluminescence. A prominent band is detected at approximately 57 kDa in all six samples, consistent with the predicted molecular weight of UDP-GlcNAc Pyrophosphorylase-related protein UAP1L1. Weaker additional bands are visible near 70 kDa in several lanes.

Description

UAP1L1 Antibody recognizes UDP-N-acetylglucosamine pyrophosphorylase 1-like 1, a protein encoded by the UAP1L1 gene on human chromosome 9. Also known as UDP-N-acetylhexosamine pyrophosphorylase-like protein 1, UAP1L1 belongs to a family of proteins associated with nucleotide sugar metabolism. Its sequence is related to UDP-N-acetylglucosamine pyrophosphorylase 1 (UAP1), an enzyme involved in the production of UDP-N-acetylglucosamine (UDP-GlcNAc). Although UAP1L1 shares structural features with this enzyme, its precise physiological functions remain incompletely characterized.

UDP-GlcNAc is an important nucleotide sugar used in numerous cellular biosynthetic pathways. It serves as a substrate for the synthesis of glycoproteins, glycolipids, proteoglycans, and other glycoconjugates. UDP-GlcNAc is also required for O-linked N-acetylglucosamine modification, commonly called O-GlcNAcylation, a reversible protein modification involved in cellular signaling and metabolic regulation. The availability of UDP-GlcNAc therefore connects carbohydrate metabolism with protein modification and cellular homeostasis.

UAP1 catalyzes the conversion of N-acetylglucosamine-1-phosphate and UTP into UDP-GlcNAc and pyrophosphate. UAP1L1 contains a conserved domain associated with UDP-N-acetylglucosamine pyrophosphorylase activity, suggesting a related biochemical function. Computational annotations predict that UAP1L1 participates in UDP-GlcNAc biosynthesis and possesses UDP-N-acetylglucosamine diphosphorylase activity. However, these predictions should not be interpreted as definitive evidence that UAP1L1 performs the same physiological functions as UAP1.

UAP1L1 is predicted to function in the cytosol, where nucleotide sugar biosynthesis and related metabolic processes occur. Its expression has been detected in multiple human tissues, suggesting that it may participate in broadly distributed cellular activities. Further investigation is needed to establish its substrate preferences, regulatory mechanisms, interaction partners, and contribution to nucleotide sugar metabolism under different physiological conditions.

Because nucleotide sugars are essential for glycosylation and cellular organization, proteins associated with their metabolism are relevant to studies of carbohydrate biosynthesis, protein modification, and metabolic regulation. Examining UAP1L1 expression and subcellular distribution may help clarify the biological significance of this relatively poorly characterized protein.

An UAP1L1 Antibody from NSJ Bioreagents supports research investigating UDP-GlcNAc Pyrophosphorylase-related proteins, nucleotide sugar metabolism, cellular glycosylation pathways, and UAP1L1 expression in human and animal tissues.

For antibodies targeting additional membrane-associated proteins and regulators of cellular organization, explore our Cell Biology Antibodies collection.

Application Notes

Optimal dilution of the UAP1L1 Antibody / UDP-GlcNAc Pyrophosphorylase Antibody should be determined by the researcher.

Immunogen

E.coli-derived human UAP1L1 recombinant protein (amino acids R182-S507) was used as the immunogen for the UAP1L1 Antibody.

Storage

After reconstitution, the UAP1L1 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

UDP-N-Acetylglucosamine Pyrophosphorylase 1-Like 1 antibody, UDP-N-Acetylhexosamine Pyrophosphorylase-Like Protein 1 antibody, UAP1-Like Protein 1 antibody, UAP1L1 Protein antibody, UDP-GlcNAc Pyrophosphorylase-Like Protein antibody

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