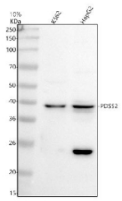
PDSS2 Antibody / Prenyl diphosphate synthase subunit 2 (FY13450)

Catalog No.	Formulation	Size
FY13450	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 and 0.2 mg Na2HPO4.
UniProt	Q86YH6
Applications	Western blot: 0.25-0.5ug/ml
Limitations	This PDSS2 antibody is available for research use only.



Western blot analysis of PDSS2 using PDSS2 antibody.Protein lysates from human K562 cells (Lane 1) and human HepG2 cells (Lane 2) were resolved by SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. PDSS2 was detected as a major band at approximately 39 kDa, which runs slightly below the predicted molecular weight of Prenyl diphosphate synthase subunit 2. This modest shift is consistent with common gel-to-gel mobility differences and the fact that apparent SDS-PAGE migration can differ from sequence-based predictions depending on protein composition and sample preparation. An additional lower molecular weight band at approximately 25 kDa is observed in HepG2 lysate, which may reflect a PDSS2-derived cleavage product or a shorter PDSS2-related species present under certain cellular or lysis conditions. Detection was performed using an HRP-based secondary antibody and chemiluminescent substrate.

Description

PDSS2 antibody targets Prenyl diphosphate synthase subunit 2, encoded by the PDSS2 gene. Prenyl diphosphate synthase subunit 2 is a mitochondrial protein that functions as a core component of the decaprenyl diphosphate synthase complex, which is required for coenzyme Q (ubiquinone) biosynthesis. This enzyme complex catalyzes the elongation of

polyprenyl chains that form the hydrophobic tail of coenzyme Q, a critical molecule for mitochondrial electron transport and cellular energy production.

Prenyl diphosphate synthase subunit 2 acts in concert with PDSS1 to regulate the length and synthesis of decaprenyl diphosphate, a key intermediate in ubiquinone production. Through this role, PDSS2 indirectly supports mitochondrial respiratory chain function, redox balance, and ATP generation. A PDSS2 antibody supports studies focused on mitochondrial metabolism, prenyltransferase activity, and coenzyme Q biosynthetic pathways.

PDSS2 is predominantly localized to mitochondria, consistent with its role in energy metabolism and oxidative phosphorylation. Expression has been observed in metabolically active tissues, where efficient coenzyme Q production is essential for maintaining respiratory capacity. Alterations in PDSS2 expression or function can disrupt mitochondrial electron transport efficiency and increase susceptibility to oxidative stress, highlighting its importance in cellular homeostasis.

From a disease relevance perspective, Prenyl diphosphate synthase subunit 2 has been implicated in mitochondrial disorders and kidney-related pathologies, including steroid-resistant nephrotic syndrome, where impaired coenzyme Q biosynthesis contributes to cellular dysfunction. Reduced PDSS2 activity has also been explored in cancer biology, where changes in mitochondrial metabolism and redox control influence tumor cell behavior and survival.

At the molecular level, Prenyl diphosphate synthase subunit 2 contains conserved prenyltransferase-associated domains that support isoprenoid chain elongation within the mitochondrial matrix. Its enzymatic activity and stability may be influenced by mitochondrial context and metabolic state, which can affect apparent behavior in biochemical assays. PDSS2 antibody reagents enable investigation of mitochondrial coenzyme Q biosynthesis and metabolic regulation, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PDSS2 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human Prenyl diphosphate synthase subunit 2 was used as the immunogen for the PDSS2 antibody.

Storage

After reconstitution, the PDSS2 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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