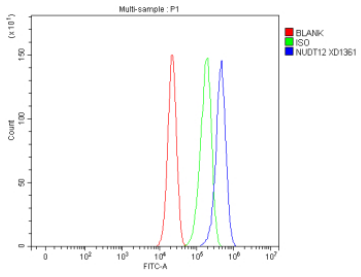
NUDT12 Antibody / Nudix hydrolase 12 (FY12015)

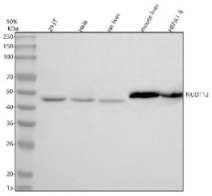
Catalog No.	Formulation	Size
FY12015	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.	100 ug

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, 0.2 mg Na2HPO4.
UniProt	Q9BQG2
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This NUDT12 antibody is available for research use only.



Flow Cytometry analysis of cells using anti-NUDT12 antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NUDT12 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of NUDT12 using anti-NUDT12 antibody. Lane 1: human 293T whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: rat liver tissue lysates, Lane 4: mouse liver tissue lysates, Lane 5: mouse Hepa1-6 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-NUDT12 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. Expected molecular weight of NUDT12 ~52â€‰kDa (462 aa). Observed bands at ~47â€‰kDa (human) and ~49â€‰kDa (mouse) are consistent with published characterizations and vendor validation data that report NUDT12 migrating slightly below 50â€‰kDa. The downward shift may reflect mitochondrial/peroxisomal targeting sequence removal or conformational/gel migration effects.

Description

NUDT12 antibody detects Nudix hydrolase 12, encoded by the NUDT12 gene. Nudix hydrolase 12 is a peroxisomal enzyme that hydrolyzes nucleotide derivatives, regulating nucleotide metabolism and coenzyme homeostasis. NUDT12 antibody provides researchers with a tool to study peroxisomal biology, nucleotide turnover, and metabolic regulation.

Nudix hydrolase 12 belongs to the Nudix hydrolase family, which are enzymes that cleave nucleoside diphosphates linked to other moieties. Research using NUDT12 antibody has shown that it hydrolyzes NADH and other dinucleotide cofactors. This activity helps regulate cellular redox balance and prevents accumulation of potentially toxic nucleotide derivatives. By controlling cofactor turnover, NUDT12 supports metabolic efficiency and cellular health.

Studies with NUDT12 antibody have revealed that the protein localizes to peroxisomes, where it contributes to reactive oxygen species detoxification and lipid metabolism. Its activity influences peroxisomal function by maintaining nucleotide pools required for enzymatic reactions. This highlights NUDT12 as an important regulator of organelle metabolism.

Dysregulation of NUDT12 has been associated with metabolic disorders and oxidative stress. Research using NUDT12 antibody has linked altered expression to disrupted NADH balance, mitochondrial dysfunction, and impaired lipid processing. These effects contribute to metabolic syndromes and neurodegenerative diseases. These findings highlight the role of NUDT12 in maintaining metabolic homeostasis.

NUDT12 antibody is applied in western blotting, immunohistochemistry, and immunofluorescence. Western blotting detects peroxisomal protein expression, immunohistochemistry reveals localization in liver and kidney tissues, and immunofluorescence highlights punctate organelle distribution. These applications make NUDT12 antibody valuable for studies into peroxisomal and metabolic biology.

By supplying validated NUDT12 antibody reagents, NSJ Bioreagents supports studies into peroxisomal metabolism, redox regulation, and disease. Detection of Nudix hydrolase 12 provides researchers with insights into how peroxisomal enzymes regulate nucleotide and coenzyme balance.

Application Notes

Optimal dilution of the NUDT12 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NUDT12 recombinant protein (Position: M1-L462) was used as the immunogen for the NUDT12 antibody.

Storage

After reconstitution, the NUDT12 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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