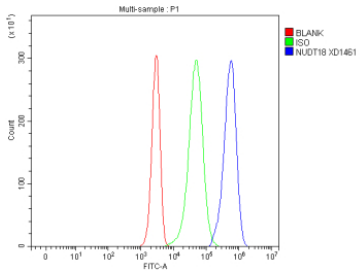
NUDT18 Antibody / Nudix hydrolase 18 (FY12473)

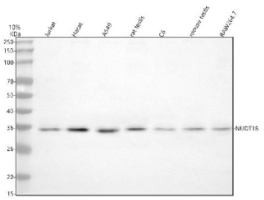
Catalog No.	Formulation	Size
FY12473	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q6ZVK8
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This NUDT18 antibody is available for research use only.



Flow Cytometry analysis of Jurkat cells using anti-NUDT18 antibody. Overlay histogram showing Jurkat 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-NUDT18 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 NUDT18 using anti-NUDT18 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Jurkat whole cell lysates, Lane 2: human Hacat whole cell lysates, Lane 3: human whole cell lysates, Lane 4: rat testis tissue lysates, Lane 5: rat C6 whole cell lysates, Lane 6: mouse testis tissue lysates, Lane 7: mouse RAW264.7 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-NUDT18 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 an ECL Plus Western Blotting Substrate. The expected molecular weight of NUDT18 is ~35 kDa.

Description

NUDT18 antibody recognizes Nudix hydrolase 18, an enzyme that belongs to the Nudix hydrolase superfamily responsible for sanitizing the nucleotide pool by hydrolyzing potentially mutagenic or damaged nucleoside triphosphates. These hydrolases protect cells from incorporating oxidized nucleotides such as 8-oxo-dGTP into DNA, which could otherwise lead to mutations and genomic instability. NUDT18 specifically acts on ADP-ribose derivatives and oxidized nucleotide triphosphates, maintaining genomic integrity under conditions of oxidative stress. The NUDT18 antibody is widely used in studies of DNA repair, oxidative stress response, and metabolic regulation of nucleotide turnover.

NUDT18 is encoded by the NUDT18 gene located on human chromosome 10q24.1. The protein contains the characteristic Nudix box motif (GX5EXEEAXE), which coordinates divalent metal ions and mediates catalysis. NUDT18 hydrolyzes substrates such as ADP-ribose and 8-oxo-dGDP, generating corresponding monophosphates and thereby removing potentially harmful oxidized nucleotide intermediates. It is localized in both cytoplasmic and mitochondrial compartments, indicating a role in protecting nucleic acid integrity in multiple cellular environments.

The NUDT18 antibody is typically used to detect a band near 35 kilodaltons on western blot, corresponding to the predicted molecular weight of the mature enzyme. Immunofluorescence analysis shows cytosolic and perinuclear localization, often associated with mitochondria-rich regions. NUDT18 expression is induced by oxidative agents and during cellular stress, suggesting a compensatory mechanism to prevent mutagenesis. Studies have shown that loss or suppression of NUDT18 increases susceptibility to oxidative DNA damage and enhances mutation frequency, linking it to cancer prevention and mitochondrial homeostasis.

Beyond its antioxidant role, NUDT18 contributes to the regulation of ADP-ribose metabolism, a process associated with signaling pathways involving poly(ADP-ribose) polymerases (PARPs) and sirtuins. By degrading ADP-ribose derivatives, NUDT18 helps reset post-translational modification cycles that regulate DNA repair and apoptosis. Dysregulation of this enzyme has been implicated in metabolic stress responses, neurodegenerative diseases, and tumor biology. NSJ Bioreagents provides a validated NUDT18 antibody optimized for western blot, immunofluorescence, and enzyme localization studies, supporting research into oxidative stress defense, DNA repair regulation, and nucleotide metabolism.

Application Notes

Optimal dilution of the NUDT18 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NUDT18 recombinant protein (Position: M1-R291) was used as the immunogen for the NUDT18 antibody.

Storage

After reconstitution, the NUDT18 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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