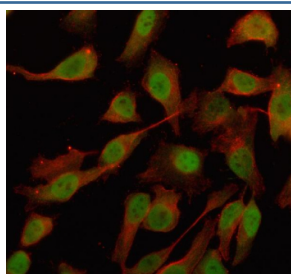


OTUD4 Antibody / OTU domain-containing protein 4 (FY12874)

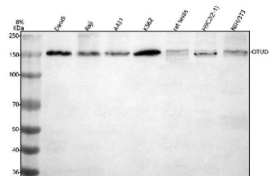
Catalog No.	Formulation	Size
FY12874	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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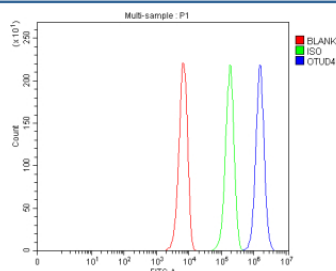
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q01804
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This OTUD4 antibody is available for research use only.



Immunofluorescent staining of OTUD4 using anti-OTUD4 antibody (green) and anti-Beta Tubulin antibody (red). OTUD4 was detected in an immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-OTUD4 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of OTUD4 using anti-OTUD4 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Daudi whole cell lysates, Lane 2: human Raji whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human K562 whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: rat H9C2(2-1) whole cell lysates, Lane 7: mouse NIH/3T3 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-OTUD4 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. OTUD4 western blot across cell lines shows a predominant band at ~150 kDa. Although the theoretical mass is ~124 kDa, OTUD4 commonly migrates higher on SDS-PAGE due to extensive low-complexity regions and post-translational modifications, consistent with the observed band.



Flow Cytometry analysis of K562 cells using anti-OTUD4 antibody. Overlay histogram showing K562 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-OTUD4 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.

Description

OTUD4 antibody detects OTU domain-containing protein 4, a deubiquitinating enzyme that regulates protein stability, DNA damage response, and innate immunity. Encoded by the OTUD4 gene on chromosome 4q31.23, this enzyme belongs to the ovarian tumor (OTU) family of cysteine proteases that cleave ubiquitin chains from substrate proteins. OTUD4 maintains cellular protein homeostasis by removing polyubiquitin modifications that target proteins for proteasomal degradation.

Structurally, OTUD4 contains an OTU catalytic domain with conserved cysteine and histidine residues required for thiol protease activity. It also possesses multiple ubiquitin-binding motifs that enable recognition of specific ubiquitin linkages, conferring substrate selectivity. OTUD4 localizes to both cytoplasm and nucleus, where it modulates key signaling proteins involved in stress response, interferon signaling, and genome maintenance.

The OTUD4 antibody is widely used in ubiquitin signaling, oncology, and immunology research to study protein degradation, stability, and DNA repair. Western blot analysis identifies an approximately 130 kilodalton band corresponding to OTUD4, while immunofluorescence reveals both cytoplasmic and nuclear punctate localization, consistent with its regulatory role in ubiquitin metabolism. This antibody enables detection of dynamic changes in ubiquitin-modifying enzymes during stress and immune signaling.

Functionally, OTUD4 stabilizes DNA repair proteins such as KU80 and RPA1, promoting efficient double-strand break repair. It also regulates antiviral responses by modulating the ubiquitination of MAVS and other interferon signaling components, thereby balancing antiviral defense and immune homeostasis. Loss or mutation of OTUD4 impairs genome integrity and contributes to increased sensitivity to genotoxic stress. In cancer, dysregulated OTUD4 expression affects tumor cell proliferation and chemoresistance by altering protein turnover and checkpoint signaling. The OTUD4 antibody provides an essential tool for exploring deubiquitination pathways and their role in cell signaling and genomic maintenance. NSJ Bioreagents validates this antibody for western blotting, immunohistochemistry, and immunofluorescence, ensuring accurate and reproducible detection for ubiquitin and DNA repair studies.

Application Notes

Optimal dilution of the OTUD4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human OTUD4 recombinant protein (Position: E52-T1114) was used as the immunogen for the OTUD4 antibody.

Storage

After reconstitution, the OTUD4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.