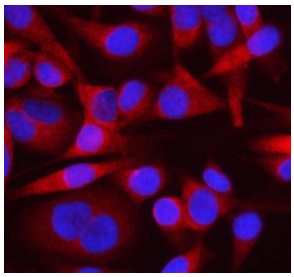
OTUD3 Antibody / OTU domain-containing protein 3 (FY12800)

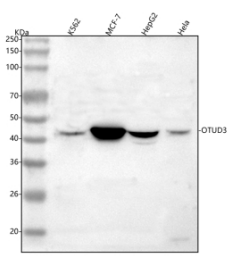
Catalog No.	Formulation	Size
FY12800	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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, 0.2 mg Na2HPO4.
UniProt	Q5T2D3
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This OTUD3 antibody is available for research use only.



Immunofluorescent staining of OTUD3 using anti-OTUD3 antibody (red). OTUD3 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-OTUD3 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of OTUD3 using anti-OTUD3 antibody. Lane 1: human K562 whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human Hela 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-OTUD3 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. The expected molecular weight of OTUD3 is ~45 kDa.

Description

OTUD3 antibody detects OTU domain-containing protein 3, a deubiquitinating enzyme that regulates protein stability, signaling, and cellular stress responses. Encoded by the OTUD3 gene on chromosome 1p36.13, this protein belongs to the OTU (ovarian tumor) family of cysteine proteases that cleave ubiquitin from substrate proteins, reversing ubiquitination and modulating protein degradation. OTUD3 functions as a negative regulator of the ubiquitin-proteasome system and contributes to homeostatic control of multiple signaling pathways, including p53 and AKT.

Structurally, OTUD3 contains an OTU catalytic domain responsible for hydrolyzing lysine-linked ubiquitin chains, particularly K63 and K48 linkages, which regulate protein turnover and signal transduction. It stabilizes tumor suppressor p53 by removing ubiquitin moieties added by MDM2 and promotes the degradation of AKT to restrain oncogenic signaling. Through these opposing actions, OTUD3 maintains a balance between proliferation and apoptosis in response to cellular stress.

The OTUD3 antibody is used in cancer biology, proteostasis, and signal transduction research to study ubiquitin signaling, protein turnover, and stress regulation. Western blot analysis identifies a 45 kilodalton band corresponding to OTUD3, while immunofluorescence shows cytoplasmic and nuclear localization depending on cellular state. This antibody supports the investigation of deubiquitination mechanisms and ubiquitin-mediated signaling networks.

Alterations in OTUD3 expression are associated with tumorigenesis, neurodegeneration, and inflammatory diseases. Overexpression of OTUD3 stabilizes p53 and enhances apoptosis, while loss of expression correlates with increased AKT activity and cancer progression. The OTUD3 antibody provides a validated tool for examining these regulatory mechanisms. NSJ Bioreagents supplies this antibody validated for its applications, ensuring consistent detection for ubiquitin signaling research.

Application Notes

Optimal dilution of the OTUD3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human OTUD3 recombinant protein (Position: E51-I398) was used as the immunogen for the OTUD3 antibody.

Storage

After reconstitution, the OTUD3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.