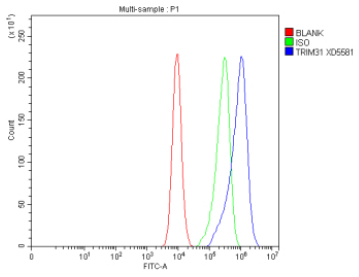
TRIM31 Antibody / Tripartite motif-containing protein 31 (FY12604)

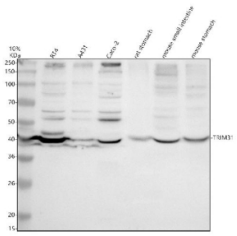
Catalog No.	Formulation	Size
FY12604	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q9BZY9
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This TRIM31 antibody is available for research use only.



Flow Cytometry analysis of CACO-2 cells using anti-TRIM31 antibody. Overlay histogram showing CACO-2 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-TRIM31 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 TRIM31 using anti-TRIM31 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human RT4 whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human Caco-2 whole cell lysates, Lane 4: rat stomach tissue lysates, Lane 5: mouse small intestine tissue lysates, Lane 6: mouse stomach tissue 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-TRIM31 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. A specific band was detected for TRIM31 at approximately 48 kDa. The expected molecular weight of TRIM31 is ~48 kDa.

Description

TRIM31 antibody detects Tripartite motif-containing protein 31, an E3 ubiquitin ligase involved in innate immune regulation, antiviral defense, and tumor suppression. TRIM31 belongs to the TRIM family, characterized by RING, B-box, and coiled-coil domains that mediate ubiquitination and protein complex assembly. The TRIM31 antibody is widely used in immunology, virology, and oncology to study ubiquitin-mediated signaling and inflammation control.

TRIM31 is encoded by the TRIM31 gene on human chromosome 6p22.1. The protein is approximately 478 amino acids long and localizes to the cytoplasm and mitochondria. TRIM31 acts as an E3 ubiquitin ligase that targets specific signaling intermediates for degradation or activation, thus modulating innate immune pathways such as RIG-I and MAVS. Through ubiquitination, TRIM31 promotes antiviral signaling by facilitating MAVS aggregation and interferon production.

The TRIM31 antibody detects a 55 kilodalton protein by western blot and demonstrates cytoplasmic punctate staining. In addition to its role in antiviral defense, TRIM31 regulates inflammasome activation and apoptosis. It ubiquitinates NLRP3 and p53, thereby controlling inflammatory and apoptotic responses. Dysregulation of TRIM31 leads to chronic inflammation and has been implicated in autoimmune diseases and metabolic disorders.

In cancer, TRIM31 can function as both an oncogene and tumor suppressor depending on cellular context. Overexpression of TRIM31 promotes proliferation and invasion in gastric and pancreatic cancers, whereas loss of TRIM31 contributes to tumorigenesis through impaired apoptosis regulation. TRIM31 expression is also linked to mitochondrial quality control via regulation of mitophagy, emphasizing its multifaceted cellular functions.

As a key E3 ligase coordinating immune, inflammatory, and metabolic pathways, TRIM31 represents a versatile model for studying ubiquitin signaling networks. NSJ Bioreagents provides a validated TRIM31 antibody optimized for its applications, supporting research into antiviral defense, protein turnover, and cancer biology.

Application Notes

Optimal dilution of the TRIM31 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TRIM31 recombinant protein (Position: R72-E335) was used as the immunogen for the TRIM31 antibody.

Storage

After reconstitution, the TRIM31 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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