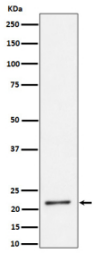
K27-linkage Specific Ubiquitin Antibody / UBB / UBC [clone 31U80] (FY13127)

Catalog No.	Formulation	Size
FY13127	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31U80
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P0CG47, P0CG48
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This K27-linkage Specific Ubiquitin antibody is available for research use only.



Western blot analysis of K27-linkage Specific Ubiquitin expression in human HeLa cell lysate using K27-linkage Specific Ubiquitin antibody. A strong band near ~20 kDa in HeLa lysate is detected, corresponding to K27-linked di-ubiquitin. Although the UBB and UBC precursors have predicted masses of ~26 kDa and ~77 kDa, they are rapidly processed into monomeric and short polyubiquitin chains in cells; K27-linked Ub2 species are therefore the predominant form detected under standard conditions.

Description

K27-linkage specific ubiquitin antibody detects ubiquitin chains linked through lysine 27, generated from ubiquitin encoded by the UBB and UBC genes. Ubiquitin is a small regulatory protein that is covalently attached to substrate proteins, marking them for degradation or altering their function. Ubiquitin chains can be linked through different lysines, with each linkage type conferring distinct signaling functions. K27-linkage specific ubiquitin antibody provides researchers with a highly selective reagent to study lysine 27 ubiquitination and its roles in signaling, DNA repair, and immunity.

Unlike the well characterized K48 and K63 chains, lysine 27 linked ubiquitin chains are less abundant but play specialized roles. Research using K27-linkage specific ubiquitin antibody has shown that these chains regulate mitochondrial homeostasis, DNA damage repair, and innate immune signaling. By targeting proteins for specific fates, K27 chains contribute to non-proteolytic ubiquitin functions, highlighting the complexity of the ubiquitin code.

In innate immunity, lysine 27 chains are involved in regulating antiviral signaling pathways such as RIG-I and MAVS. Studies with K27-linkage specific ubiquitin antibody have revealed that these chains promote activation of signaling complexes leading to interferon production. In DNA repair, K27 ubiquitin regulates assembly of repair factors at sites of damage. Dysregulation of K27 chains is linked to impaired genome stability and susceptibility to cancer.

Because ubiquitin modifications are dynamic and context dependent, linkage-specific antibodies are essential for dissecting the ubiquitin code. K27-linkage specific ubiquitin antibody allows researchers to distinguish lysine 27 linkages from other ubiquitin chains, enabling studies of how different linkages integrate into signaling networks. This specificity is crucial for understanding how ubiquitination encodes information beyond protein degradation.

K27-linkage specific ubiquitin antibody is applied in western blotting, immunoprecipitation, and immunofluorescence. Western blotting detects K27-linked chains in cellular extracts, immunoprecipitation isolates proteins modified with this linkage, and immunofluorescence reveals dynamic localization after stress or immune stimulation. These methods highlight its value in ubiquitin signaling research.

By supplying validated K27-linkage specific ubiquitin antibody reagents, NSJ Bioreagents supports research into ubiquitin signaling, DNA repair, and immunity. Detection of lysine 27 ubiquitin chains provides a critical tool to decode how ubiquitin modifications regulate cellular processes.

Application Notes

Optimal dilution of the K27-linkage Specific Ubiquitin antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human K27-linkage Specific Ubiquitin was used as the immunogen for the K27-linkage Specific Ubiquitin antibody.

Storage

Store the K27-linkage Specific Ubiquitin antibody at -20oC.