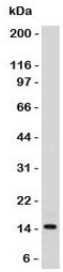
SUMO2/3 Antibody [clone S23MT-1] (V7091)

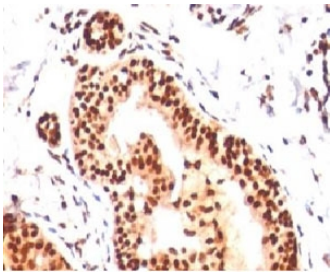
Catalog No.	Formulation	Size
V7091-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7091-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7091SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7091IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

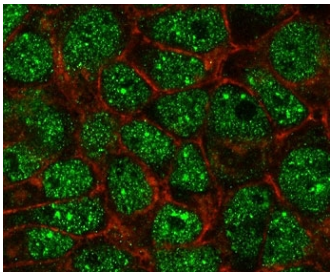
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	S23MT-1
Purity	Protein G purified
Gene ID	6613, 6612
Localization	Predominantly nuclear with some cytoplasmic staining
Applications	Immunofluorescence : 1-2ug/ml Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Prediluted IHC Only Format : incubate for 30 min at RT (1)
Limitations	This SUMO2/3 antibody is available for research use only.



Western blot testing of human HeLa lysate with SUMO2/3 antibody (clone S23MT-1).



IHC analysis of human tonsil with SUMO2/3 antibody (clone S23MT-1). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min.



Immunofluorescent testing of PFA-fixed human MCF7 cells with SUMO2/3 antibody (green, clone S23MT-1) and Phalloidin (red).

Description

SUMO2/3 antibody detects small ubiquitin-like modifier proteins 2 and 3, members of the SUMO family encoded by the SUMO2 and SUMO3 genes. SUMO proteins are covalently attached to target proteins through a process called SUMOylation, which alters protein localization, stability, and activity. SUMO2 and SUMO3 are highly homologous and often referred to collectively as SUMO2/3 because antibodies cannot reliably distinguish between them. These modifiers are particularly enriched under stress conditions and have been implicated in regulating transcription, DNA repair, nuclear transport, and signal transduction. Because SUMOylation controls many aspects of cell physiology, SUMO2/3 antibody is a vital reagent in molecular biology, cancer research, and cell signaling studies.

SUMO2 and SUMO3 share approximately 95 percent sequence identity and are expressed ubiquitously, with increased conjugation observed during cellular stress such as heat shock, oxidative stress, and DNA damage. Unlike SUMO1, which tends to modify distinct targets, SUMO2/3 form polymeric chains that create platforms for protein recruitment and pathway regulation. This functional versatility positions SUMO2/3 as key regulators of genome integrity, transcriptional control, and cellular adaptation to environmental cues.

The SUMO2/3 antibody clone S23MT-1 provides specific and reproducible detection of these modifiers. Clone S23MT-1 has been employed in peer-reviewed studies that investigate SUMO dynamics during stress responses, mitotic progression, and DNA repair. Its consistent performance makes it suitable for Western blotting, immunofluorescence, and immunoprecipitation. Because SUMO2/3 conjugation increases rapidly under stress, this antibody has been instrumental in characterizing the kinetics and extent of SUMO pathway activation.

Research using clone S23MT-1 has clarified how SUMOylation contributes to essential processes. In the DNA damage response, SUMO2/3 conjugation facilitates recruitment of repair proteins to sites of lesions and coordinates repair pathway choice. In mitosis, SUMO2/3 modification ensures correct chromosome segregation and spindle assembly. In transcriptional regulation, SUMO2/3 fine-tune activity of transcription factors and chromatin remodelers, balancing activation and repression of genes. These insights have linked SUMO2/3 biology to cancer progression, neurodegeneration, and viral infection, where pathogens hijack SUMO pathways to enhance replication or suppress host defenses.

Clone S23MT-1 has also been used to highlight the reversibility of SUMOylation. SUMO-specific proteases (SENPs) remove SUMO modifications, restoring target proteins to their unmodified states. Antibody detection of SUMO2/3 conjugates allows researchers to track how SENP activity and SUMO ligase function interact to maintain protein homeostasis. This balance between conjugation and deconjugation is crucial for cell viability and stress adaptation.

NSJ Bioreagents supplies this SUMO2/3 antibody to support research into post-translational modification, genome maintenance, and cellular stress responses. Alternate names include SUMO2 antibody, SUMO3 antibody, small ubiquitin-like modifier antibody, ubiquitin-like protein SUMO2 antibody, ubiquitin-like protein SUMO3 antibody, and SUMOylation pathway antibody.

Application Notes

Titering of the SUMO2/3 antibody may be required for optimal performance.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant human SUMO2 protein was used as the immunogen for this SUMO2/3 antibody. This antibody reacts with both SUMO2 and SUMO3.

Storage

Store the SUMO2/3 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).