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SUMO-1 Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone SUMO1/1188]
Catalog # AH12492

Product Information

Application	WB, IHC, IF, FC
Primary Accession	P63165
Other Accession	7341, 596171
Reactivity	Human, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	SUMO1/1188
Calculated MW	11557

Additional Information

Gene ID	7341
Other Names	Small ubiquitin-related modifier 1, SUMO-1, GAP-modifying protein 1, GMP1, SMT3 homolog 3, Sentrin, Ubiquitin-homology domain protein PIC1, Ubiquitin-like protein SMT3C, Smt3C, Ubiquitin-like protein UBL1, SUMO1, SMT3C, SMT3H3, UBL1
Application Note	WB~~1:1000 IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	SUMO-1 Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SUMO1
Synonyms	SMT3C, SMT3H3, UBL1
Function	Ubiquitin-like protein that can be covalently attached to proteins as a monomer or a lysine-linked polymer. Covalent attachment via an isopeptide bond to its substrates requires prior activation by the E1 complex SAE1-SAE2 and linkage to the E2 enzyme UBE2I, and can be promoted by E3 ligases such as PIAS1-4, RANBP2 or CBX4. This post- translational modification on lysine residues of proteins plays a crucial role in a number of cellular processes such as nuclear transport, DNA replication and repair, mitosis and signal transduction. Involved for instance in targeting RANGAP1 to the nuclear pore complex protein RANBP2. Covalently attached to the voltage-gated potassium

channel KCNB1; this modulates the gating characteristics of KCNB1 (PubMed:19223394). Polymeric SUMO1 chains are also susceptible to polyubiquitination which functions as a signal for proteasomal degradation of modified proteins. May also regulate a network of genes involved in palate development. Covalently attached to ZFHX3 (PubMed:24651376).

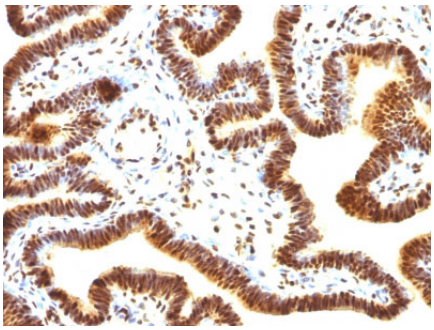
Cellular Location

Nucleus membrane. Nucleus speckle {ECO:0000250|UniProtKB:P63166}. Cytoplasm. Nucleus, PML body. Cell membrane. Nucleus. Note=Recruited by BCL11A into the nuclear body (By similarity). In the presence of ZFHX3, sequesterd to nuclear body (NB)-like dots in the nucleus some of which overlap or closely associate with PML body (PubMed:24651376) {ECO:0000250|UniProtKB:P63166, ECO:0000269|PubMed:24651376}

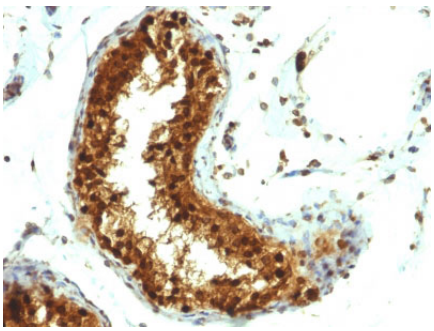
Background

This MAb is specific to SUMO-1 and shows no cross-reaction with either SUMO-2 or SUMO-3. The small ubiquitin-related modifier (SUMO) proteins, which include SUMO-1, SUMO-2 and SUMO-3, belong to the ubiquitin-like protein family. Like ubiquitin, the SUMO proteins are synthesized as precursor proteins that undergo processing before conjugation to target proteins. Also, both utilize the E1, E2, and E3 cascade enzymes for conjugation. However, SUMO and ubiquitin differ with respect to targeting. Ubiquitination predominantly targets proteins for degradation, whereas sumoylation targets proteins to a variety of cellular processing, including nuclear transport, transcriptional regulation, apoptosis and protein stability. The unconjugated SUMO-1 protein localizes to the nuclear membrane.

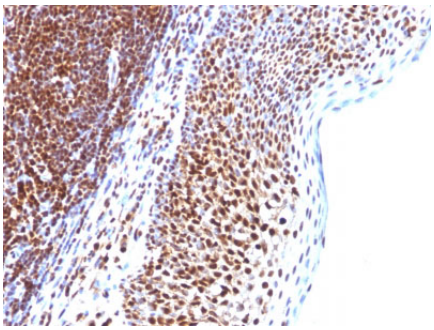
Images



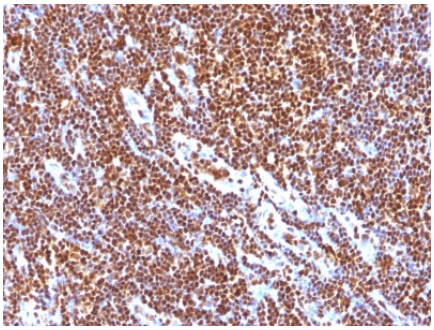
Formalin-fixed, paraffin-embedded human Ovarian Carcinoma stained with SUMO-1 Monoclonal Antibody (SUMO1/1188)



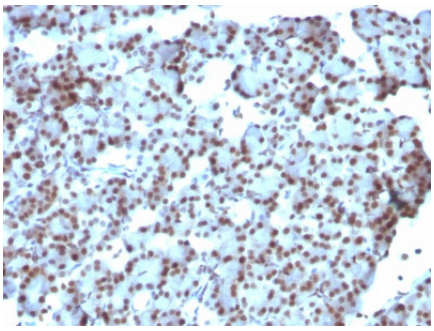
Formalin-fixed, paraffin-embedded human Testicular Carcinoma stained with SUMO-1 Monoclonal Antibody (SUMO1/1188)



Formalin-fixed, paraffin-embedded human Tonsil stained with SUMO-1 Monoclonal Antibody (SUMO1/1188)



Formalin-fixed, paraffin-embedded human Tonsil stained with SUMO-1 Monoclonal Antibody (SUMO1/1188)



Formalin-fixed, paraffin-embedded Rat Pancreas stained with SUMO-1 Monoclonal Antibody (SUMO1/1188)