

Sumo Antibody
Catalog # ASC10473**Specification****Sumo Antibody - Product Information**

Application	WB, ICC, IF
Primary Accession	P63165
Other Accession	AAH66306 , 42490984
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	Sumo antibody can be used for detection of sumo by Western blot at 0.5 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

Sumo Antibody - Additional Information

Gene ID 7341

Other Names

Sumo Antibody: DAP1, GMP1, PIC1, SMT3, UBL1, OFC10, SENP2, SMT3C, SMT3H3, OK/SW-cl.43, Small ubiquitin-related modifier 1, GAP-modifying protein 1, SUMO-1, SMT3 suppressor of mif two 3 homolog 1 (S. cerevisiae)

Target/Specificity

SUMO1;

Reconstitution & Storage

Sumo antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

Sumo Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Sumo Antibody - 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 ZFH3 (PubMed:24651376).

Cellular Location

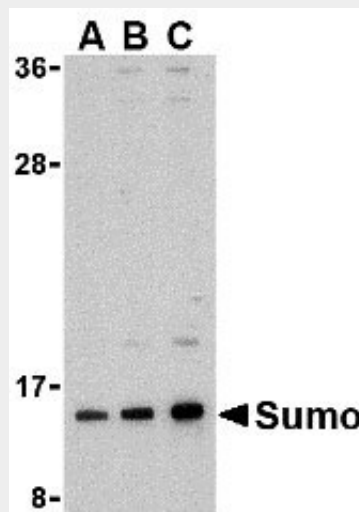
Nucleus membrane. Nucleus speckle {ECO:0000250|UniProtKB:P63166}. Cytoplasm. Nucleus, PML body. Cell membrane. Nucleus. Note=Recruited by BCL11A into the nuclear body (By similarity). In the presence of ZFH3, sequestered to nuclear body (NB)-like dots in the nucleus some of which overlap or closely associate with PML body (PubMed:24651376) {ECO:0000250|UniProtKB:P63166, ECO:0000269|PubMed:24651376}

Sumo Antibody - Protocols

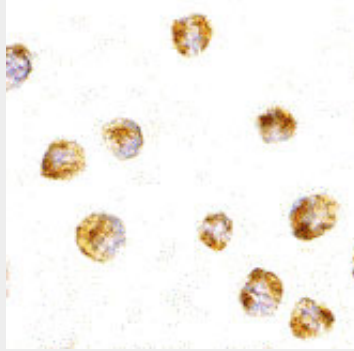
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

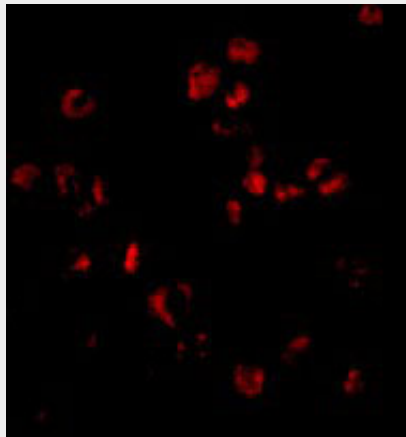
Sumo Antibody - Images



Western blot analysis of sumo in HL-60 cell lysate with sumo antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.



Immunocytochemistry of Sumo in HL60 cells with Sumo antibody at 5 µg/mL.



Immunofluorescence of Sumo in HL60 cells with Sumo antibody at 20 µg/mL.

Sumo Antibody - Background

Sumo Antibody: The sumo family of proteins is related both structurally and functionally to ubiquitin in that they are post-translationally attached to the ε-amino group of a lysine residue of the substrate protein. This sumoylation plays a number of roles in DNA replication and repair, protein targeting to various subnuclear structures, and the regulation of numerous cellular processes including the inflammatory response in mammalian cells. Sumo was initially identified as a covalent modification of RanGAP1 in studies on nuclear import in mammalian cells. More recently, sumo has been shown to be involved in the regulation of transcription factors, possibly by enhancing their interactions with co-repressors. Sumo is also thought to play some role in the modulation of ubiquitin-mediated degradation of proteins by acting as an inhibitor. At least four different isoforms of sumo are known to exist; Sumo antibody will only recognize isoform 1.

Sumo Antibody - References

Dohmen RJ. Sumo protein modification. *Biochim. Biophys. Acta* 2004; 1695:113-31.
Matunis MJ, Coutavas E, and Blobel G. A novel ubiquitin-like modification modulates the partitioning of the Ran-GTPase-activating protein RanGAP1 between the cytosol and the nuclear pore complex. *J. Cell Biol.* 1996; 135:1457-70.
Gill G. Something about SUMO inhibits transcription. *Curr. Opin. Genet. Dev.* 2005; 15:536-41.
Desterro JM, Rodriguez MS, and Hay RT. SUMO-1 modification of IκBα inhibits NFκB activation. *Mol. Cell* 1998; 2:233-9.