

**SUMO1 / SMT3 Antibody (N-Terminus)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS11484****Specification**

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**SUMO1 / SMT3 Antibody (N-Terminus) - Product Information**

Application	WB, IHC-P, IF, ICC
Primary Accession	<a href="#">P63165</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	12kDa KDa
Dilution	WB~~1:1000 IHC-P~~N/A IF~~1:50~200 ICC~~N/A

**SUMO1 / SMT3 Antibody (N-Terminus) - 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

**Target/Specificity**

14 amino acid peptide from near the amino terminus of human sumo

**Reconstitution & Storage**

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

**Precautions**

SUMO1 / SMT3 Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

**SUMO1 / SMT3 Antibody (N-Terminus) - 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:<a href="http://www.uniprot.org/citations/19223394" target="\_blank">19223394</a>). 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:<a href="http://www.uniprot.org/citations/24651376" target="\_blank">24651376</a>).

#### **Cellular Location**

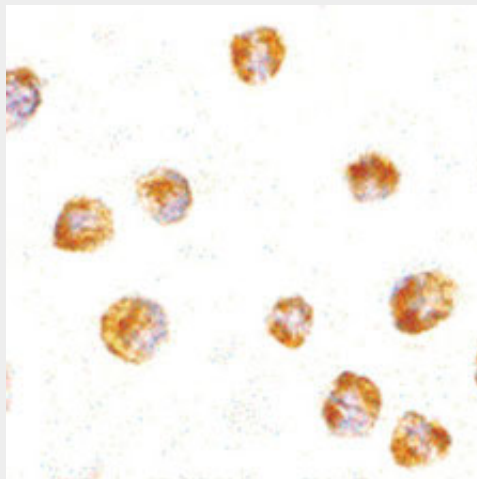
Nucleus membrane. Nucleus speckle {ECO:0000250|UniProtKB:P63166}. Cytoplasm. Nucleus, PML body. Cell membrane. Nucleus. Note=Recruited by BCL11A into the nuclear body (By similarity). In the presence of ZFH3, sequestered to nuclear body (NB)-like dots in the nucleus some of which overlap or closely associate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

#### **SUMO1 / SMT3 Antibody (N-Terminus) - Protocols**

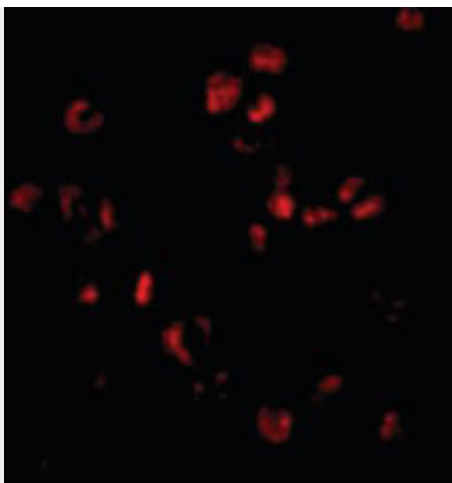
Provided below are standard protocols that you may find useful for product applications.

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

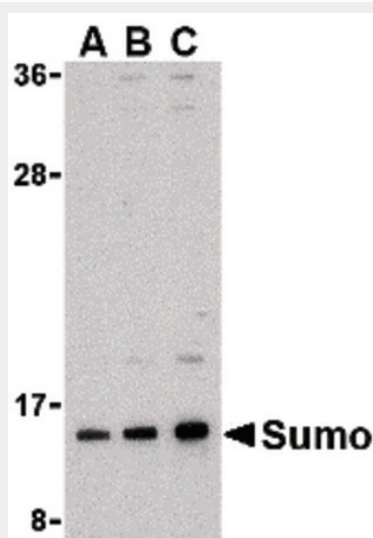
#### **SUMO1 / SMT3 Antibody (N-Terminus) - Images**



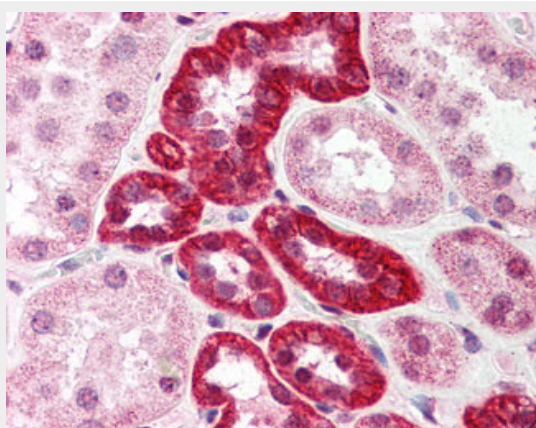
Immunocytochemistry of Sumo in HL60 cells with Sumo antibody at 5 ug/ml.



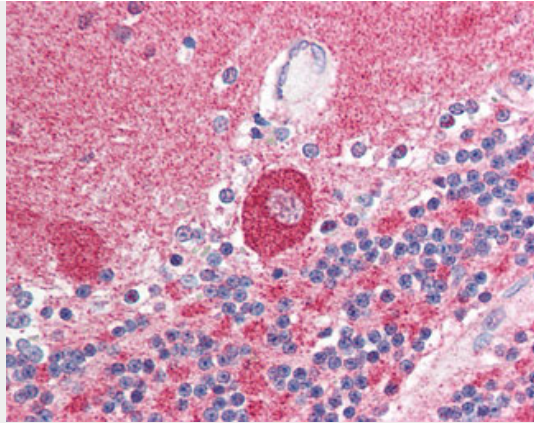
Immunofluorescence of Sumo in HL60 cells with Sumo antibody at 20 ug/ml.



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



Anti-SUMO1 antibody IHC of human kidney.



Anti-SUMO1 antibody IHC of human brain, cerebellum.

### **SUMO1 / SMT3 Antibody (N-Terminus) - Background**

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. 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.

### **SUMO1 / SMT3 Antibody (N-Terminus) - References**

- Lapenta V.,et al.Genomics 40:362-367(1997).
- Boddy M.N.,et al.Oncogene 13:971-982(1996).
- Shen Z.,et al.Genomics 36:271-279(1996).
- Mahajan R.,et al.Cell 88:97-107(1997).
- Matunis M.J.,et al.J. Cell Biol. 135:1457-1470(1996).