

**SUMO1 Antibody (N-term E67)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP1222d****Specification**

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**SUMO1 Antibody (N-term E67) - Product Information**

Application	IF, FC, IHC-P, WB,E
Primary Accession	<a href="#">P63165</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	11557
Antigen Region	52-79

**SUMO1 Antibody (N-term E67) - 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**

This SUMO1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 52-79 amino acids from the N-terminal region of human SUMO1.

**Dilution**

IF~~1:10~50  
FC~~1:10~50  
IHC-P~~1:50~100  
WB~~1:1000  
E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

SUMO1 Antibody (N-term E67) is for research use only and not for use in diagnostic or therapeutic procedures.

**SUMO1 Antibody (N-term E67) - 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**

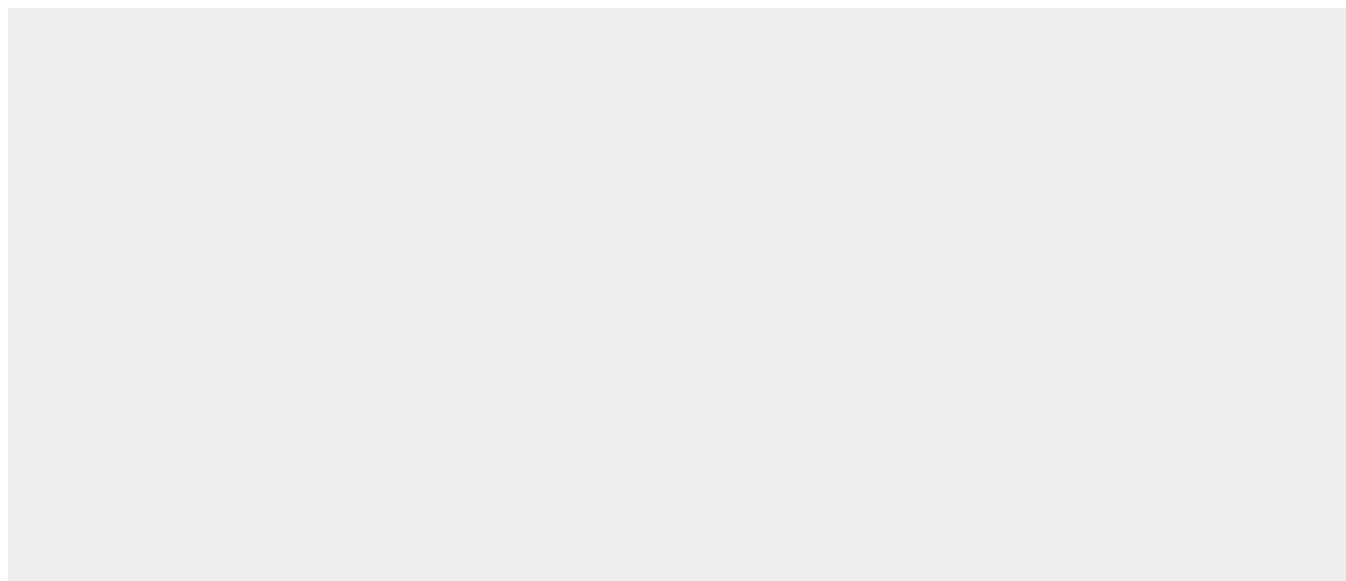
Nucleus membrane. Nucleus speckle {ECO:0000250|UniProtKB:P63166}. Cytoplasm. Nucleus, PML body. Cell membrane. Nucleus. Note=Recruited by BCL11A into the nuclear body (By similarity). In the presence of ZFH3, sequestered to nuclear body (NB)-like dots in the nucleus some of which overlap or closely associate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

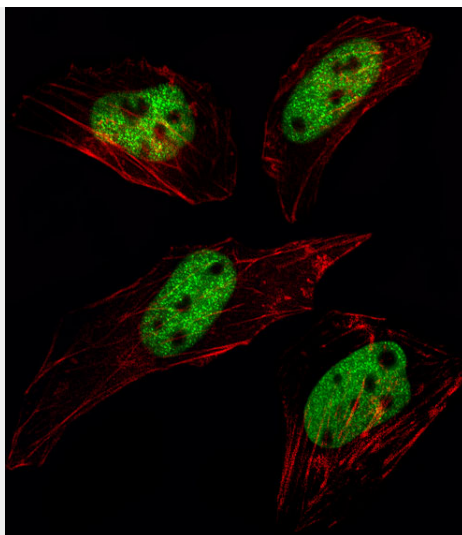
#### **SUMO1 Antibody (N-term E67) - Protocols**

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

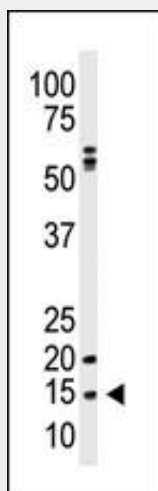
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **SUMO1 Antibody (N-term E67) - Images**

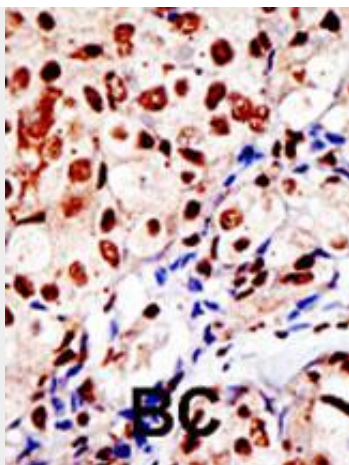




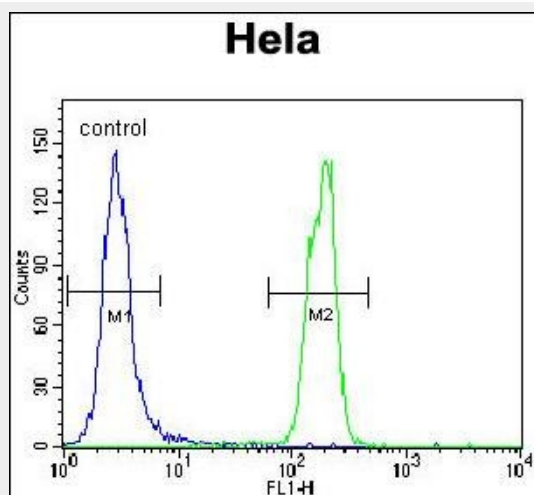
Fluorescent image of HeLa cell stained with SUMO1 Antibody (N-term E67)(Cat#AP1222d/SH030609A). HeLa cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with SUMO1 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). SUMO1 immunoreactivity is localized to Nucleus significantly.



Western blot analysis of anti-SUMO1 polyclonal antibody (Cat. #AP1222d) in A375 cell line lysate. SUMO1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



SUMO1 Antibody (N-term E67) (Cat. #AP1222d) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

### **SUMO1 Antibody (N-term E67) - Background**

Covalent modification of target lysines by SUMO (small ubiquitin-like modifier) modulates processes such as protein localization, transcription, nuclear transport, mitosis, DNA replication and repair, signal transduction, and viral reproduction. SUMO does not seem to be involved in protein degradation and may in fact function as an antagonist of ubiquitin in the degradation process. The SUMO family consists of SUMO1 and closely related homologs SUMO2, SUMO3, and SUMO4. Sumoylation has been shown to regulate a wide range of proteins, including MDM2, PIAS, PML, RanGAP1, RanBP2, p53, p73, HIPK2, TEL, c-Jun, Fas, Daxx, TNFRI, Topo-I, Topo-II, PARK2, WRN, Sp100, IκB-α, Androgen receptor (AR), GLUT1/4, CaMK, DNMT3B, TDG, HIF1A, CHD3, EXOSC9, RAD51, and viral targets such as CMV-IE1/2, EBV-BZLF1, and HPV/BPV-E1.

### **SUMO1 Antibody (N-term E67) - References**

Yang, S.H., et al., Mol. Cell 13(4):611-617 (2004).  
Bailey, D., et al., J. Biol. Chem. 279(1):692-703 (2004).  
Ling, Y., et al., Nucleic Acids Res. 32(2):598-610 (2004).

Pountney, D.L., et al., Exp. Neurol. 184(1):436-446 (2003).  
Ohshima, T., et al., J. Biol. Chem. 278(51):50833-50842 (2003).