

# Rabbit SUMO1 Polyclonal Antibody | anti-SUMO1 antibody

SUMO1 Antibody

| CATALOG # | HOST   | REACTIVITY        | APPLICATIONS                                                                       |
|-----------|--------|-------------------|------------------------------------------------------------------------------------|
| AAA326612 | Rabbit | Human, Mouse, Rat | ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot |

## PRODUCT SYNONYMS

SUMO1; Polyclonal Antibody; SUMO1 Antibody; DAP1; GAP modifying protein 1; GAP-modifying protein 1; GMP 1; GMP1; OFC10; PIC 1; PIC1; SENP2; Sentrin 1; Sentrin; Small ubiquitin related modifier 1; Small ubiquitin-like modifier 1; Small ubiquitin-related modifier 1; SMT3; SMT3 homolog 3; SMT3 suppressor of mif two 3 homolog 1; yeast; homolog 3; Smt3C; SMT3H3; SUMO-1; SUMO1\_HUMAN; Ubiquitin homology domain protein PIC1; Ubiquitin Like 1; Ubiquitin like protein SMT3C; Ubiquitin like protein UBL1; Ubiquitin-homology domain protein PIC1; Ubiquitin-like protein SMT3C; Ubiquitin-like protein UBL1; UBL 1; UBL1; anti-SUMO1 antibody

## PRODUCT SPECIFICATIONS

|                                                 |                                                                                                          |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Host                                            | Rabbit                                                                                                   |
| Reactivity                                      | Human, Mouse, Rat                                                                                        |
| Clonality                                       | Polyclonal                                                                                               |
| Isotype                                         | IgG                                                                                                      |
| Specificity                                     | SUMO1 antibody detects endogenous levels of total SUMO1                                                  |
| Purity/Purification                             | The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.            |
| Form/Format                                     | Liquid<br>Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.            |
| Concentration                                   | 1mg/ml (varies by lot)                                                                                   |
| Sequence Length                                 | 101                                                                                                      |
| Applicable Applications for anti-SUMO1 antibody | ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot) |
| Immunogen                                       | A synthetic peptide of human SUMO1                                                                       |
| Subcellular Location                            | Nucleus Membrane. Nucleus Speckle. Cytoplasm. Recruited by BCL11A into the nuclear body.                 |
| Conjugation                                     | Unconjugated                                                                                             |
| Preparation and Storage                         | Store at -20 degree C. Stable for 12 months from date of receipt.                                        |

## IMAGES



### WB (Western Blot)

Western blot analysis of extracts of A431, using SUMO1 antibody. The lane on the left is treated with the antigen-specific peptide.



### IF (Immunofluorescence)

AAA326612 staining 293 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



#### IHC (Immunohistochemistry)

AAA326612 at 1/100 staining Rat liver tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

### ADDITIONAL INFORMATION

#### Related Product Information for anti-SUMO1 antibody

**Description:** Small ubiquitin-related modifier 1, 2 and 3 (SUMO-1, -2 and-3) are members of the ubiquitin-like protein family (1). The covalent attachment of the SUMO-1, -2 or-3 (SUMOylation) to target proteins is analogous to ubiquitination. This post-translational modification is a reversible, multi-step process that is initiated by cleaving a precursor protein to a mature protein. Mature SUMO-1, -2 or-3 is then linked to the activating enzyme E1, conjugated to E2 and in conjunction with E3, SUMO-1, -2 or-3 is ligated to the target protein (2). Ubiquitin and the individual SUMO family members are all targeted to different proteins with diverse biological functions. Ubiquitin predominantly regulates degradation of its target (1). In contrast, SUMO-1 is conjugated to RanGAP, PML, p53 and IκappaB-alpha to regulate nuclear trafficking, formation of subnuclear structures, regulation of transcriptional activity and protein stability (3-7). SUMO-2/-3 forms poly-(SUMO) chains, is conjugated to topoisomerase II and APP, regulates chromosomal segregation and cellular responses to environmental stress, and plays a role in the progression of Alzheimer disease (8-11).

**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 ZFX3 (PubMed:24651376).

**Subunit Structure:** Covalently attached to KCNB1; UBE2I increases cross-linking with KCNB1 and PIAS1 decreases cross-links with KCNB1 (PubMed:19223394). Interacts with SAE2, RANBP2, PIAS1 and PIAS2. Interacts with PRKN. Covalently attached to a number of proteins such as IKFZ1, PML, RANGAP1, HIPK2, SP100, p53, p73-alpha, MDM2, JUN, DNMT3B and TDG. Also interacts with HIF1A, HIPK2, HIPK3, CHD3, EXOSC9, RAD51 and RAD52. Interacts with USP25 (via ts SIM domain); the interaction weakly sumoylates USP25. Interacts with SIMC1, CASP8AP2, RNF111 AND SOBP (via SIM domains). Interacts with BHLHE40/DEC1. Interacts with RWDD3. Interacts with UBE2I/UBC9 and this interaction is enhanced in the presence of RWDD3. Interacts with MTA1. Interacts with Epstein-barr virus BGLF4.

**Post-translational Modifications:** Cleavage of precursor form by SENP1 or SENP2 is necessary for function. Polymeric SUMO1 chains undergo polyubiquitination by RNF4.

**Similarity:** Belongs to the ubiquitin family. SUMO subfamily.

### NCBI AND UNIPROT INFORMATION

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| NCBI GI #                        | 54792065                                               |
| NCBI GeneID                      | 7341                                                   |
| NCBI Accession #                 | NP_001005781.1                                         |
| NCBI GenBank Nucleotide #        | NM_001005781.1                                         |
| UniProt Accession #              | P63165; P55856; Q6FGG0; Q6NZ62; Q93068; A8MUS8; B2R4I5 |
| Molecular Weight                 | Observed: 12 kDa<br>Predicted: 12 kDa                  |
| NCBI Official Full Name          | small ubiquitin-related modifier 1 isoform a           |
| NCBI Official Synonym Full Names | small ubiquitin-like modifier 1                        |

|                               |                                                           |
|-------------------------------|-----------------------------------------------------------|
| NCBI Official Symbol          | SUMO1                                                     |
| NCBI Official Synonym Symbols | DAP1; GMP1; PIC1; SMT3; UBL1; OFC10; SENP2; SMT3C; SMT3H3 |
| NCBI Protein Information      | small ubiquitin-related modifier 1                        |
| UniProt Protein Name          | Small ubiquitin-related modifier 1                        |
| UniProt Gene Name             | <b>SUMO1</b>                                              |
| UniProt Synonym Gene Names    | SMT3C; SMT3H3; UBL1; SUMO-1; GMP1; Smt3C                  |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/sumo1-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/326612>