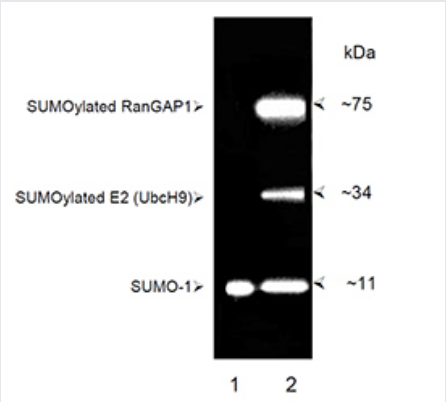
SUMO-1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	SUMO-1, Polyclonal Antibody
Full Product Name	SUMO-1 (human) (CT) polyclonal antibody
Product Gene Name	anti-SUMO-1 antibody
Product Synonym Names	Sentrin-1; Small ubiquitin-related modifier 1
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid. In PBS containing 0.01% sodium azide.
Purity/Purification	Partially purified by salt precipitation.
Specificity	Recognizes human SUMO-1.
Preparation and Storage	Long term storage: -20 degree C
Molecular Weight	8,799 Da
OMIM	601912
3D Structure	ModBase 3D Structure for P63165
Immunogen	Synthetic peptide corresponding to aa 72-97 of human SUMO-1.
Product Categories/Family for anti-SUMO-1 antibody	Posttranslational Modifications; Protein Synthesis & Folding; Ubiquitin & UBL Signaling; Stem Cells
Applications Tested/Suitable for anti-SUMO-1 antibody	Western Blot (WB)
Application Notes for anti-SUMO-1 antibody	Western Blot (1:1,000) Suggested dilutions/conditions may not be available for all applications.
Related Product Information for anti-SUMO-1 antibody	The small ubiquitin-related modifier SUMO-1 belongs to the growing family of ubiquitin-related proteins involved in post-translational protein modification. It is present in all eukaryotic kingdoms and is highly conserved from yeast to humans. Whereas invertebrates have only one SUMO gene, three members of the SUMO family have been described in vertebrates, SUMO-1 and the close homologues SUMO-2 and SUMO-3 with some 50% homology between SUMO-1 and SUMO-2/3. The SUMO family members have a short N-terminal extension that is absent in ubiquitin, and the function of which is unknown and the sequence of which varies between the three family members. Unlike ubiquitin, SUMO-1 does not appear to target proteins for degradation but seems to be involved in the modulation of protein-protein interactions. Although having only 18% amino acid sequence identity with ubiquitin, the overall structure closely resembles that of ubiquitin. Whereas the two C-terminal glycine residues required for isopeptide bond formation are conserved between the two molecules, Lys48 found in ubiquitin, and required to generate ubiquitin polymers, is substituted by Gln69in SUMO-1 thereby providing an explanation of why SUMO-1 has not been observed to form polymers. An increasing number of SUMO-1 substrates are being described but three major substrates for SUMO-1 modification are RanGAP1, PML and IkappaB alpha proteins.
Other Notes	Small volumes of anti-SUMO-1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for SUMO-1 purchase	MBS565217 is an antibody targeting SUMO-1. Also known as SUMO-1 (human) (CT) polyclonal antibody. Reactive in Human. Host: Rabbit.



Western Blot (WB) of anti-SUMO-1 antibody
Western blot analysis: SUMOylation assay utilising SUMO-1, SUMO E1, SUMO E2 and RANGAP1 as substrate in presence (lane 2) and absence (lane 1) of ATP after SDS-PAGE and blotting to PVDF with subsequent probing.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SUMO-1. It may not necessarily be applicable to this product.

NCBI GI #	52783799
NCBI GeneID	7341
NCBI Accession #	P63165.1
UniProt Primary Accession #	P63165
UniProt Secondary Accession #	P55856; Q6FGG0; Q6NZ62; Q93068; A8MUS8; B2R4I5
UniProt Related Accession #	P63165
NCBI Official Full Name	Small ubiquitin-related modifier 1
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
UniProt Protein Name	Small ubiquitin-related modifier 1
UniProt Synonym Protein Names	GAP-modifying protein 1; GMP1; SMT3 homolog 3; Sentrin; Ubiquitin-homology domain protein PIC1; Ubiquitin-like protein SMT3C; Smt3C; Ubiquitin-like protein UBL1
Protein Family	Sentrin-specific protease
UniProt Gene Name	SUMO1
UniProt Synonym Gene Names	SMT3C; SMT3H3; UBL1; SUMO-1; GMP1; Smt3C
UniProt Entry Name	SUMO1_HUMAN
NCBI Protein Information	small ubiquitin-related modifier 1
NCBI Summary for SUMO-1	This gene encodes a protein that is a member of the SUMO (small ubiquitin-like modifier) protein family. It functions in a manner similar to ubiquitin in that it is bound to target proteins as part of a post-translational modification system. However, unlike ubiquitin which targets proteins for degradation, this protein is involved in a variety of cellular processes, such as nuclear transport, transcriptional regulation, apoptosis, and protein stability. It is not active until the last four amino acids of the carboxy-terminus have been cleaved off. Several pseudogenes have been reported for this gene. Alternate transcriptional splice variants encoding different isoforms have been characterized. [provided by RefSeq, Jul 2008]

UniProt Comments for SUMO-1	SUMO1: 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. Interacts with SAE2, UBE2I, RANBP2, PIAS1 and PIAS2. Interacts with PARK2. 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. Belongs to the ubiquitin family. SUMO subfamily. Protein type: Ubiquitin-like modifier; Nuclear receptor co-regulator Chromosomal Location of Human Ortholog: 2q33 Cellular Component: cytoplasm; dendrite; fibrillar center; heterochromatin; nuclear body; nuclear membrane; nuclear pore; nuclear speck; nucleolus; nucleoplasm; nucleus; plasma membrane; PML body; synapse; voltage-gated potassium channel complex; XY body Molecular Function: potassium channel regulator activity; protein binding; protein tag; transcription factor binding; ubiquitin protein ligase binding Biological Process: cellular protein metabolic process; cytokine and chemokine mediated signaling pathway; DNA repair; double-strand break repair; double-strand break repair via homologous recombination; double-strand break repair via nonhomologous end joining; negative regulation of action potential; negative regulation of DNA binding; negative regulation of transcription factor activity; negative regulation of transcription, DNA-dependent; nucleotide-excision repair; palate development; PML body organization and biogenesis; positive regulation of proteasomal ubiquitin-dependent protein catabolic process; positive regulation of protein complex assembly; post-translational protein modification; protein stabilization; protein sumoylation; regulation of protein localization; viral reproduction Disease: Orofacial Cleft 10
Research Articles on SUMO-1	**1.** PML IV/ARF interaction enhances p53 SUMO-1 conjugation, activation, and senescence.
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