SUMO-1 (human) (CT) polyclonal 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 IκBα proteins.

This antibody is covered by our Worry-Free Guarantee.

Citations: 7 View Online »

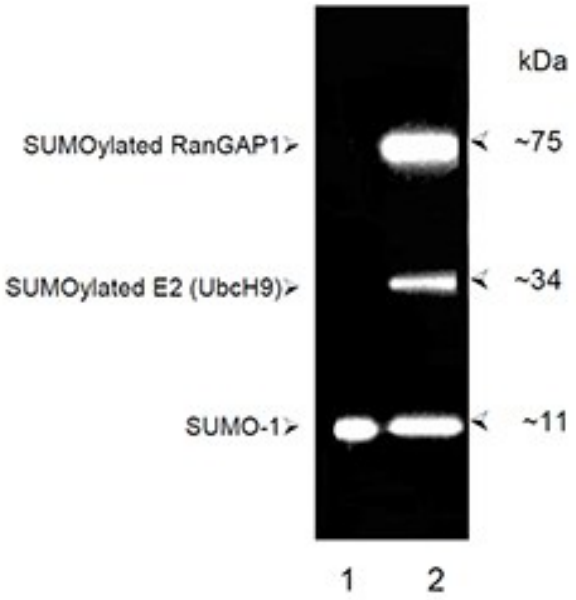
Ordering Information

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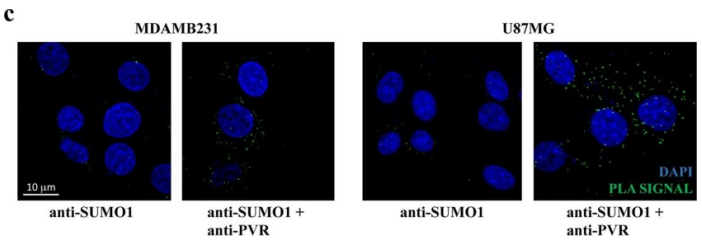
BML-PW9460-0025	25µl
BML-PW9460-0100	100µl

Manuals, SDS & CofA

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Western blot analysis: SUMOylation assay utilising SUMO-1, SUMO E1 (BML-UW9330), SUMO E2 (BML-UW9320) and RANGAP1 as substrate in presence (lane 2) and absence (lane 1) of ATP after SDS-PAGE and blotting to PVDF with subsequent probing with BML-PW9460.



PVR expression is regulated by SUMO pathway in breast cancer and glioma cell lines. (a) MDAMB231 and U87MG cells were treated overnight with 25 µg/mL of GA or vehicle alone (DMSO), and then evaluated for PVR surface expression by immunofluorescence and FACS analysis with FACSCanto (BD Bioscience). Means ±SD from three independent experiments are shown. *p < 0.05, Student T test. (b) Primary cultured NK cells were pre-treated for 20 minutes at RT with anti-DNAM1 neutralizing mAb or with anti-CD56 (Ctrl mAb) and were used as effector cells in a 4 hours 51Cr release assay toward GA or vehicle (DMSO)-treated MDAMB231 and U87MG cells. (c) PLA was performed on MDAMB231 breast cancer cells and U87MG glioma cells as in Fig. 4c. Images are representative of three independent experiments, and were acquired with zoom 2 using 60X/1.35NA oil immersion objective. Z-projections of 30 slices are shown.

Image collected and cropped by CiteAb under a CC-BY license from the following publication: Innate immune activating ligand SUMOylation affects tumor cell recognition by NK cells. *Sci Rep* (2017)

Handling & Storage

Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	Sentrin-1, Small ubiquitin-related modifier 1
Application	WB
Formulation	Liquid. In PBS containing 0.01% sodium azide.
Host	Rabbit
Immunogen	Synthetic peptide corresponding to aa 72-97 of human SUMO-1.
Purity Detail	Partially purified by salt precipitation .
Recommendation Dilutions/Conditions	Western Blot (1:1,000)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Source	Purified from rabbit serum.
Species Reactivity	Human

Technical Info / Product Notes

The antiserum was raised in New Zealand White rabbits to a synthetic peptide corresponding to amino acid residues 72-97 of human SUMO-1. The antibody has been partially purified by salt precipitation and is suspended in PBS containing 0.01% sodium azide as a preservative. BML-PW9460 has been characterised for specificity against recombinant SUMO-1 and SUMO-1 conjugates by western blotting and shows similar affinity for both. The antibody shows no cross-reactivity with ubiquitin, multi-ubiquitin chains, SUMO2/3, ISG15, NEDD8, and FAT10.

Reactivity of the antibody with both pro- and mature forms of SUMO-1 is completely abolished by preincubation of the antibody with its cognate peptide (product code BML-PP9475).

UniProt ID

P63165

Worry-free Guarantee

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