SUMO-2/3 (human) (NT) polyclonal antibody

The small ubiquitin-related modifier SUMO 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. Two ubiquitin like proteins, SUMO-2 and SUMO-3 have been identified that are related to SUMO-1 but which are functionally distinct. 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, and 86% identity between SUMO-2 and SUMO-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. In vivo studies have indicated that PML is modified by SUMO-1 and SUMO-2/3, although the functional significance of SUMO-2/3 conjugation has not been revealed. Functional SUMO modification sites present in the N-terminal regions of SUMO-2 and SUMO-3 are utilised by SAE1/SAE2 (SUMO E1) and Ubc9 (SUMO E2) to form polymeric chains of SUMO-2 and SUMO-3 on protein substrates in vitro and SUMO-2 chains have been detected in vivo. The ability to form polymeric chains is not shared by SUMO-1. Thus, although all SUMO species share the same conjugation machinery, modification by SUMO-1 and SUMO2/3 has distinct functional consequences which are only now beginning to be defined more clearly.

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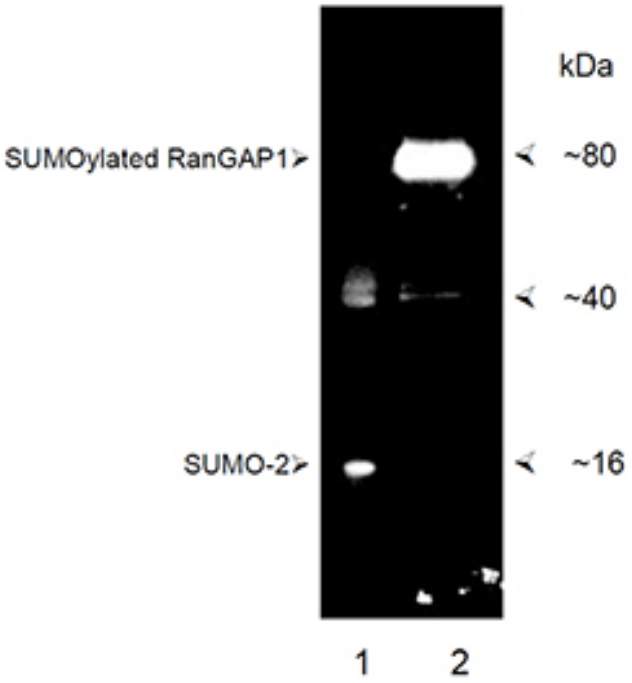
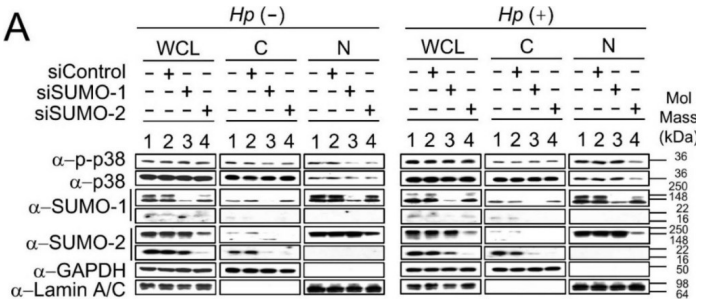
BML-PW9465-0025	25µl
BML-PW9465-0100	100µl

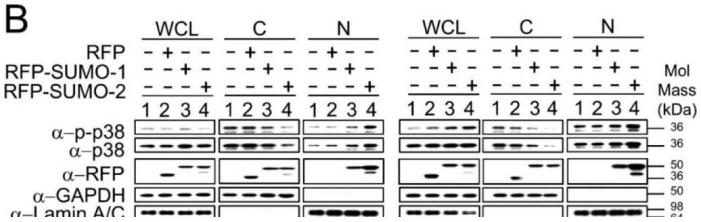
Manuals, SDS & CofA View Online »



Western Blot Analysis: SUMOylation assay utilising His6-tagged SUMO-2 (BML-UW9205), SUMO E1 (BML-UW9330), SUMO E2 (BML-UW9320) and RANGAP1 as substrate in presence (lane 2) and absence (lanes 1) of ATP after SDS-PAGE and blotting to PVDF with subsequent probing with BML-PW9465.



SUMO-2 is more efficient than SUMO-1 in regulating nuclear p38 and p-p38 during H. pylori infection. The cytoplasmic and nuclear fractions of p38 and p-p38 were analyzed from siSUMO transfectants (A) and RFP-SUMO transfectants (B). p38 and p-p38 were blotted with anti-p38 and anti-p-p38 antibodies. SUMO-1 and SUMO-2 were detected using anti-SUMO-1 and anti-SUMO-2 antibodies. RFP alone or fusion proteins of RFP-SUMO-1 or RFP-SUMO-2, were detected using anti-RFP. GAPDH and Lamin A/C were used as cytosolic and nuclear markers respectively. For α-SUMO-1 and α-SUMO-2 the upper panels show conjugated SUMOs while the lower panels show free-form SUMOs. (A) Western Blots showed that the endogenous SUMO-1 and SUMO-2 were down-regulated after transfectional incubation of siSUMO-1 and siSUMO-2. p38 and p-p38 in the N-fraction were decreased in siSUMO-1 and siSUMO-2 transfectants without H. pylori infection; however, their nuclear levels decreased only for siSUMO-2 and not for siSUMO-1 transfectants during H. pylori infection; and (B) Western Blots showed that RFP-SUMO-1 and RFP-SUMO-2 fusion proteins were up-regulated after transfectional incubation. p38 and p-p38 levels were up-regulated in the N-fraction and clearly down-regulated in the C-fraction in RFP-SUMO-2 transfectants during H. pylori infection. Quantification of the blots shown in (A,B) is summarized in Table S3 below. All experiments were repeated three times and representative images are shown.



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Handling & Storage

Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	Small ubiquitin-related modifier 2/3
Application	WB
Formulation	Liquid. In PBS containing 0.01% sodium azide.
Host	Rabbit
Immunogen	Synthetic peptide corresponding to aa 1-15 of human SUMO-2.
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 to SUMO-2 was raised in New Zealand White rabbits to a synthetic peptide corresponding to amino acid residues 1-15 of human SUMO-2. The antibody has been partially purified by salt precipitation and is suspended in PBS containing 0.01% sodium azide as a preservative. BML-PW9465 has been characterised for specificity against various members of the ubiquitin-like protein family including ubiquitin, multi-ubiquitin chains, SUMO-1, UCRP, Nedd8, and FAT10. This antibody shows no cross-reactivity with any of these Ubl proteins upon Western blotting under the conditions tested.

Reactivity of the antibody with both pro- and mature forms of SUMO-2 is completely abolished by preincubation of the antibody with its cognate peptide (product code BML-PP9480). For Western blot an initial dilution of at least 1:1000 is recommended. BML-PW9465 has not been characterised for use in immunoprecipitation or immunohistochemical applications.

UniProt ID

P61956

Worry-free Guarantee

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