

#4930 Store at -20°C

SUMO-1 Antibody


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB, IHC-P, IF-F, IF-IC	Reactivity: H M R Mk	Sensitivity: Endogenous	Source: Rabbit	UniProt ID: #P63165	Entrez-Gene Id: 7341
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Product Usage Information	Application Western Blotting Immunohistochemistry (Paraffin) Immunofluorescence (Frozen) Immunofluorescence (Immunocytochemistry)	Dilution 1:1000 1:50 1:200 1:100 - 1:400
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	SUMO-1 Antibody detects recombinant SUMO-1 and endogenous levels of sumoylated proteins (e.g. SUMO-1-RanGAP, 90kD).	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to a sequence within human SUMO-1 that does not correspond to SUMO-2/3. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	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 IκB-α 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).	
Background References	1. Schwartz, D.C. and Hochstrasser, M. (2003) <i>Trends Biochem. Sci.</i> 28, 321-8. 2. Kim, K.I. et al. (2002) <i>J. Cell Physiol.</i> 191, 257-68. 3. Matunis, M.J. et al. (1996) <i>J. Cell Biol.</i> 135, 1457-70. 4. Duprez, E. et al. (1999) <i>J. Cell Sci.</i> 112, 381-93. 5. Gostissa, M. et al. (1999) <i>EMBO J.</i> 18, 6462-74. 6. Rodriguez, M.S. et al. (1999) <i>EMBO J.</i> 18, 6455-61. 7. Desterro, J.M. et al. (1998) <i>Mol. Cell</i> 2, 233-9. 8. Tatham, M.H. et al. (2001) <i>J. Biol. Chem.</i> 276, 35368-74. 9. Azuma, Y. et al. (2003) <i>J. Cell Biol.</i> 163, 477-87. 10. Li, Y. et al. (2003) <i>Proc. Natl. Acad. Sci. USA</i> 100, 259-64. 11. Saitoh, H. and Hinchey, J. (2000) <i>J. Biol. Chem.</i> 275, 6252-8.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IHC-P: Immunohistochemistry (Paraffin) IF-F: Immunofluorescence (Frozen) IF-IC: Immunofluorescence (Immunocytochemistry)
Cross-Reactivity Key	

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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