

#4930 Store at -20°C

SUMO-1 Antibody

100 µl
 (10 Western mini-blot)



Orders ■ 877-616-CELL (2355)
 orders@cellsignal.com
Support ■ 877-678-TECH (8324)
 info@cellsignal.com
Web ■ www.cellsignal.com

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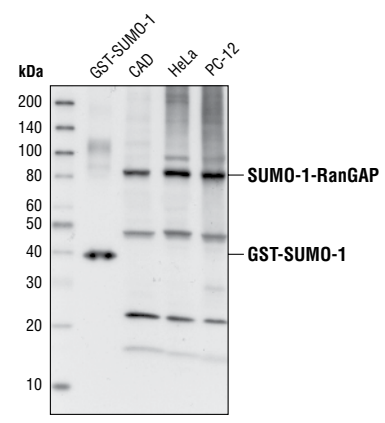
This product is for *in vitro* research use only and is not intended for use in humans or animals.
 This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications	Species Cross-Reactivity*	Source
W, IP, IHC-P, IF-IC Endogenous	H, M, R, Mk	Rabbit**

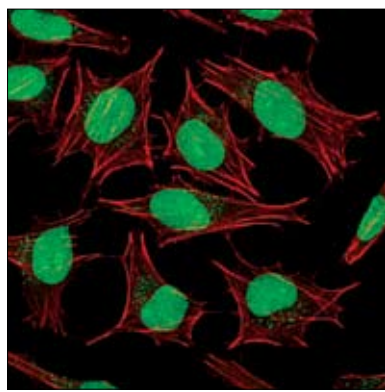
Background: Small ubiquitin-related modifier 1, 2 and 3 (SUMO-1, -2 and -3) are members of the ubiquitin-like protein family (1). The covalent attachment of the SUMO-1, -2 or -3 (sumoylation) to target proteins is analogous to ubiquitination. This post-translational modification is a reversible, multi-step process and 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 regulates predominantly 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 and regulates chromosomal segregation and cellular responses to environmental stress, and plays a role in the progression of Alzheimer's disease (8-11).

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 rabbits with a synthetic peptide (KLH-coupled) derived from a sequence within human SUMO-1 that does not correspond to SUMO-2/3. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of recombinant GST-SUMO-1 protein (38 kDa) and extracts from CAD, HeLa and PC-12 cells using SUMO-1 Antibody.



Confocal immunofluorescent analysis of HeLa cells using SUMO-1 Antibody (green). Actin filaments have been labeled with Alexa Fluor® 555 (red).

Entrez-Gene ID #7341
 Swiss-Prot Acc. #P63165

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.

***Species cross-reactivity is determined by Western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry	1:50
IHC Protocol	Citrate/TBST
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Companion Products:

- SUMO-2/3 (18H8) Rabbit mAb #4971
- SUMO-2/3 Antibody #4974
- Ubiquitin (P4D1) Mouse mAb #3936
- Phototope®-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody #7071
- Anti-rabbit IgG, HRP-linked Antibody #7074
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder Detection Pack #7727
- 20X LumiGLO® Reagent and 20X Peroxide #7003

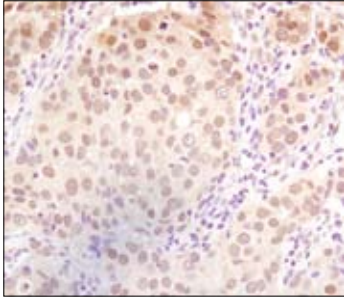
Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

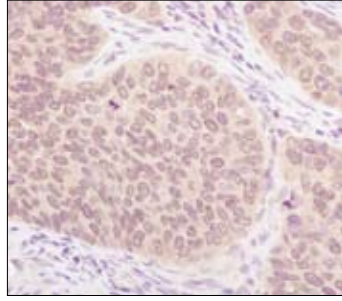
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- (8) Tatham, M.H. et al. (2001) *J. Biol. Chem.* 276, 35368-35374.
- (9) Azuma, Y. et al. (2003) *J. Cell Biol.* 163, 477-487.
- (10) Li, Y. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 259-264.
- (11) Saitoh, H. and Hinchey, J. (2000) *J. Biol. Chem.* 275, 6252-6258.

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

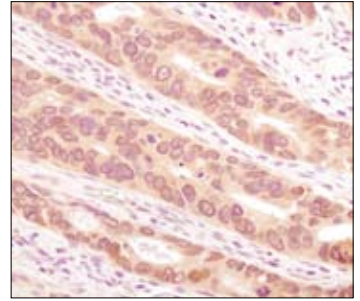
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma using SUMO-1 Antibody.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma using SUMO-1 Antibody.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using SUMO-1 Antibody.