

SUMO-1 (C-19): sc-6375

BACKGROUND

The small ubiquitin-related modifier (SUMO) proteins, which include SUMO-1, 2, and 3, belong to the ubiquitin-like protein family. Like ubiquitin, the SUMO proteins are synthesized as precursor proteins that undergo processing before conjugation to target proteins. Also, both utilize the E1, E2, and E3 cascade enzymes for conjugation. However, SUMO and ubiquitin differ with respect to targeting. Ubiquitination predominantly targets proteins for degradation, whereas sumoylation targets proteins to a variety of cellular processing, including nuclear transport, transcriptional regulation, apoptosis, and protein stability. The unconjugated SUMO-1, 2, and 3 proteins localize to the nuclear membrane, nuclear bodies, and cytoplasm, respectively. SUMO-1 utilizes Ubc9 for conjugation to several target proteins, which include $\kappa\text{B}\alpha$, MDM2, p53, PML, and RanGap1. SUMO-2 and 3 contribute to a greater percentage of protein modification than does SUMO-1, and unlike SUMO-1, they can form polymeric chains. In addition, SUMO-3 regulates Amyloid β generation and may be critical in the onset or progression of Alzheimer's disease.

CHROMOSOMAL LOCATION

Genetic locus: SUMO1 (human) mapping to 2q33.1.

SOURCE

SUMO-1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SUMO-1 of human origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6375 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SUMO-1 (C-19) is recommended for detection of SUMO-1 of human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SUMO-1 (C-19) is also recommended for detection of SUMO-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SUMO-1 siRNA (h): sc-29498, SUMO-1 shRNA Plasmid (h): sc-29498-SH and SUMO-1 shRNA (h) Lentiviral Particles: sc-29498-V.

Molecular Weight of SUMO-1 monomer: 11.5 kDa.

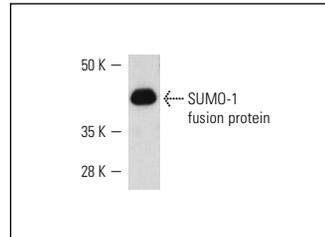
Molecular Weight of SUMO-1 heterodimer: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or HL-60 whole cell lysate: sc-2209.

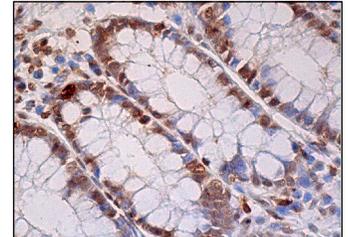
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SUMO-1 (C-19): sc-6375. Western blot analysis of human recombinant SUMO-1 fusion protein.



SUMO-1 (C-19): sc-6375. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Read, M.A., et al. 2000. NEDD8 modification of CUL-1 activates SCF(β (TrCP))-dependent ubiquitination of $\kappa\text{B}\alpha$. *Mol. Cell. Biol.* 20: 2326-2333.
2. Katano, H., et al. 2001. Human-herpesvirus-8-encoded K8 protein colocalizes with the promyelocytic leukemia protein (PML) bodies and recruits p53 to the PML bodies. *Virology* 286: 446-455.
3. Kodiha, M., et al. 2004. Multiple mechanisms promote the inhibition of classical nuclear import upon exposure to severe oxidative stress. *Cell Death Differ.* 11: 862-874.
4. Doan, L.L., et al. 2004. Targeted transcriptional repression of GFI-1 by GFI-1 and Gfi-1B in lymphoid cells. *Nucleic Acids Res.* 32: 2508-2519.
5. Kim, E.J., et al. 2008. UBC9-mediated sumoylation leads to transcriptional repression of IRF-1. *Biochem. Biophys. Res. Commun.* 377: 952-956.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **SUMO-1 (D-11): sc-5308** or **SUMO-1 (66AT1273.94): sc-130275**, our highly recommended monoclonal alternatives to SUMO-1 (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **SUMO-1 (D-11): sc-5308**.