

# SUMO-1 (FL-101): sc-9060

## BACKGROUND

The small ubiquitin-related modifier (SUMO) proteins, which include SUMO-1, SUMO-2 and SUMO-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, SUMO-2 and SUMO-3 proteins localize to the nuclear membrane, nuclear bodies and cytoplasm, respectively. SUMO-1 utilizes Ubc9 for conjugation to several target proteins, which include I $\kappa$ B $\alpha$ , MDM2, p53, PML and Ran GAP1. SUMO-2 and SUMO-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  $\beta$ -Amyloid generation and may be critical in the onset or progression of Alzheimer's disease.

## CHROMOSOMAL LOCATION

Genetic locus: SUMO1 (human) mapping to 2q33.1; Sumo1 (mouse) mapping to 1 C1.3.

## SOURCE

SUMO-1 (FL-101) is a rabbit polyclonal antibody raised against amino acids 1-101 representing full length SUMO-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SUMO-1 (FL-101) is recommended for detection of SUMO-1 of mouse, rat, human and *Xenopus* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (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 (FL-101) 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 siRNA (m): sc-36574, SUMO-1 shRNA Plasmid (h): sc-29498-SH, SUMO-1 shRNA Plasmid (m): sc-36574-SH, SUMO-1 shRNA (h) Lentiviral Particles: sc-29498-V and SUMO-1 shRNA (m) Lentiviral Particles: sc-36574-V.

Molecular Weight of SUMO-1 monomer: 11.5 kDa.

Molecular Weight of SUMO-1 heterodimer: 90 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, 3611-RF whole cell lysate: sc-2215 or NIH/3T3 whole cell lysate: sc-2210.

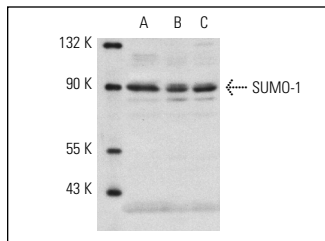
## RESEARCH USE

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

## 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 (FL-101): sc-9060. Western blot analysis of SUMO-1 covalently bound to Ran GAP1 in NIH/3T3 (A), KNRK (B) and 3611-RF (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

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- Galisson, F., et al. 2011. A novel proteomics approach to identify SUMOylated proteins and their modification sites in human cells. *Mol. Cell. Proteomics* 10: M110.004796.
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Try **SUMO-1 (D-11): sc-5308** or **SUMO-1 (66AT1273.94): sc-130275**, our highly recommended monoclonal alternatives to SUMO-1 (FL-101). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **SUMO-1 (D-11): sc-5308**.