

SUMO-2/3 (FL-103): sc-32873

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 I κ B α , 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: SUMO2 (human) mapping to 17q25.1, SUMO3 (human) mapping to 21q22.3; Sumo2 (mouse) mapping to 11 E2, Sumo3 (mouse) mapping to 10 C1.

SOURCE

SUMO-2/3 (FL-103) is a rabbit polyclonal antibody raised against amino acids 1-103 representing full length SUMO-2 of human origin.

PRODUCT

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

APPLICATIONS

SUMO-2/3 (FL-103) is recommended for detection of SUMO-2 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-2/3 (FL-103) is also recommended for detection of SUMO-2 and 3 in additional species, including bovine.

Suitable for use as control antibody for SUMO-2/3 siRNA (h): sc-37167, SUMO-2/3 siRNA (m): sc-37168, SUMO-2/3 shRNA Plasmid (h): sc-37167-SH, SUMO-2/3 shRNA Plasmid (m): sc-37168-SH, SUMO-2/3 shRNA (h) Lentiviral Particles: sc-37167-V and SUMO-2/3 shRNA (m) Lentiviral Particles: sc-37168-V.

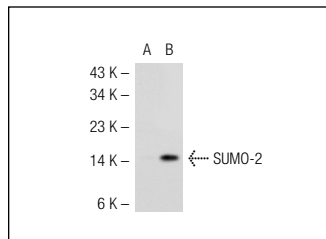
Molecular Weight of SUMO-2/3: 11-13 kDa.

Positive Controls: rat brain extract: sc-2392, SUMO-2 (h): 293T Lysate: sc-111926 or HeLa whole cell lysate: sc-2200.

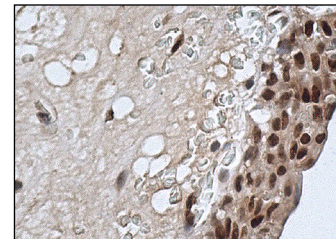
STORAGE

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

DATA



SUMO-2/3 (FL-103): sc-32873. Western blot analysis of SUMO-2 expression in non-transfected: sc-117752 (A) and human SUMO-2 transfected: sc-111926 (B) 293T whole cell lysates.



SUMO-2/3 (FL-103): sc-32873. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of urothelial cells.

SELECT PRODUCT CITATIONS

- Lyst, M.J., et al. 2006. Regulation of MBD1-mediated transcriptional repression by SUMO and PIAS proteins. *EMBO J.* 25: 5317-5328.
- Fuhs, S.R. and Insel, P.A. 2011. Caveolin-3 undergoes sumoylation by the SUMO E3 ligase PIASy: sumoylation affects G protein-coupled receptor desensitization. *J. Biol. Chem.* 286: 14830-14841.
- Audard, V., et al. 2012. Upregulation of nuclear factor-related κ B suggests a disorder of transcriptional regulation in minimal change nephrotic syndrome. *PLoS ONE* 7: e30523.
- Cai, Q., et al. 2013. A unique SUMO-2-interacting motif within LANA is essential for KSHV latency. *PLoS Pathog.* 9: e1003750.

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-2/3/4 (C-3): sc-393144**, our highly recommended monoclonal alternative to SUMO-2/3 (FL-103). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **SUMO-2/3/4 (C-3): sc-393144**.