SANTA CRUZ BIOTECHNOLOGY, INC.

SUMO-3 (76AT630.91.31): sc-130884

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 nucleus.

REFERENCES

1. Duprez, E., et al. 1999. SUMO-1 modification of the acute promyelocytic leukaemia protein PML: implications for nuclear localisation. J. Cell Sci.112: 381-393.
2. Saitoh, H., et al. 2000. Functional heterogeneity of small ubiquitin-related protein modifiers SUMO-1 versus SUMO-2/3. J. Biol. Chem. 275: 6252-6258.
3. Tatham, M.H., et al. 2001. Polymeric chains of SUMO-2 and SUMO-3 are conjugated to protein substrates by SAE1/SAE2 and UBC9. J. Biol. Chem. 276: 35368-35374.
4. Kim, K.I., et al. 2002. Versatile protein tag, SUMO: its enzymology and biological function. J. Cell. Physiol. 191: 257-268.
5. Su, H., et al. 2002. Molecular features of human ubiquitin-like SUMO genes and their encoded proteins. Gene 296: 65.
6. Spengler, M.L., et al. 2002. SUMO-1 modification of human cytomegalovirus IE1/IE72. J. Virol. 76: 2990-2996.
7. Hayashi, T., et al. 2002. UBC9 is essential for viability of higher eukaryotic cells. Exp. Cell Res. 280: 212-221.
8. Maeda, A., et al. 2003. The intracellular association of the nucleocapsid protein (NP) of Hantaan virus (HTNV) with small ubiquitin-like modifier-1 (SUMO-1) conjugating enzyme 9 (UBC9). Virology 305: 288-297.
9. Li, Y., et al. 2003. Positive and negative regulation of APP amyloidogenesis by sumoylation. Proc. Natl. Acad. Sci. USA 100: 259-264.

CHROMOSOMAL LOCATION

Genetic locus: SUMO3 (human) mapping to 21q22.3.

SOURCE

SUMO-3 (76AT630.91.31) is a mouse monoclonal antibody raised against purified recombinant GST-SUMO-3 fusion protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

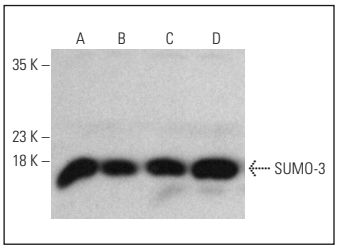
SUMO-3 (76AT630.91.31) is recommended for detection of SUMO-3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SUMO-3 siRNA (h): sc-41083, SUMO-3 shRNA Plasmid (h): sc-41083-SH and SUMO-3 shRNA (h) Lentiviral Particles: sc-41083-V.

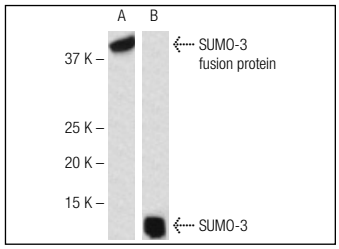
Molecular Weight of SUMO-3: 11-13 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or HL-60 whole cell lysate: sc-2209.

DATA



SUMO-3 (76AT630.91.31): sc-130884. Western blot analysis of SUMO-3 expression in 293T (**A**), HeLa (**B**), HL-60 (**C**) and Jurkat (**D**) whole cell lysates.



SUMO-3 (76AT630.91.31): sc-130884. Western blot analysis of SUMO-3 expression in GST-SUMO-3 fusion protein (**A**) and Jurkat (**B**) whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sin, Y., et al. 2016. The C-terminal region and SUMOylation of cockayne syndrome group B protein play critical roles in transcription-coupled nucleotide excision repair. J. Biol. Chem. 291: 1387-1397.

STORAGE

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

PROTOCOLS

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