SANTA CRUZ BIOTECHNOLOGY, INC.

SUMO-3 (LW-M2): sc-135572

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 for 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

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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: 65-73.
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; Sumo3 (mouse) mapping to 10 C1.

SOURCE

SUMO-3 (LW-M2) is a mouse monoclonal antibody raised against recombinant SUMO-3 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SUMO-3 (LW-M2) is recommended for detection of SUMO-3 of mouse, rat and 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 siRNA (m): sc-41084, SUMO-3 siRNA (r): sc-156151, SUMO-3 shRNA Plasmid (h): sc-41083-SH, SUMO-3 shRNA Plasmid (m): sc-41084-SH, SUMO-3 shRNA Plasmid (r): sc-156151-SH, SUMO-3 shRNA (h) Lentiviral Particles: sc-41083-V, SUMO-3 shRNA (m) Lentiviral Particles: sc-41084-V and SUMO-3 shRNA (r) Lentiviral Particles: sc-156151-V.

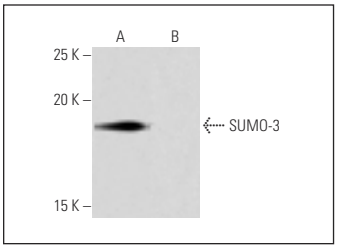
Molecular Weight of SUMO-3: 11-13 kDa.

Positive Controls: human SUMO-3 transfected 293T whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SUMO-3 (LW-M2): sc-135572. Western blot analysis of SUMO-3 expression in human SUMO-3 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.

STORAGE

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

RESEARCH USE

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

CONJUGATES

See **SUMO-2/3/4 (C-3): sc-393144** for SUMO-2/3/4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.