SANTA CRUZ BIOTECHNOLOGY, INC.

SUMO-2 (C-13): sc-26972

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 IκBα, 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.

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: 35368-25374.
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. 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.

CHROMOSOMAL LOCATION

Genetic locus: SUMO2 (human) mapping to 17q25.1.

SOURCE

SUMO-2 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SUMO-2 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-26972 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SUMO-2 (C-13) is recommended for detection of SUMO-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

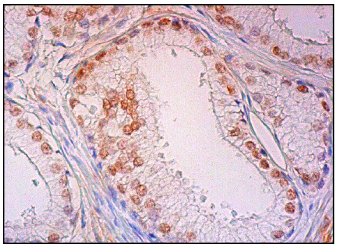
Suitable for use as control antibody for SUMO-2 siRNA (h): sc-41081, SUMO-2 shRNA Plasmid (h): sc-41081-SH and SUMO-2 shRNA (h) Lentiviral Particles: sc-41081-V.

Molecular Weight of SUMO-2: 13 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SUMO-2 (C-13): sc-26972. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing nuclear staining of glandular cells.

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.