SANTA CRUZ BIOTECHNOLOGY, INC.

SUMO-2/3/4 (C-3): sc-393144

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The small ubiquitin-related modifier (SUMO) proteins, which include SUMO-1, SUMO-2, SUMO-3 and SUMO-4, 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. Ubiquitin and SUMO proteins 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, SUMO-3 and SUMO-4 proteins localize to the nucleus.

SOURCE

SUMO-2/3/4 (C-3) is a mouse monoclonal antibody raised against amino acids 1-95 representing full length SUMO-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SUMO-2/3/4 (C-3) is available conjugated to agarose (sc-393144 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393144 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393144 PE), fluorescein (sc-393144 FITC), Alexa Fluor® 488 (sc-393144 AF488), Alexa Fluor® 546 (sc-393144 AF546), Alexa Fluor® 594 (sc-393144 AF594) or Alexa Fluor® 647 (sc-393144 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393144 AF680) or Alexa Fluor® 790 (sc-393144 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

SUMO-2/3/4 (C-3) is recommended for detection of SUMO-2, SUMO-3 and SUMO-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Molecular Weight of SUMO-2/3/4: 11 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or MDA-MB-231 cell lysate: sc-2232.

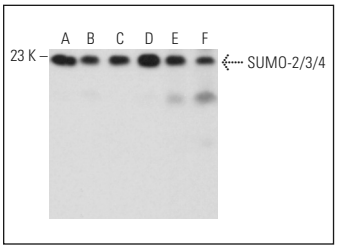
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

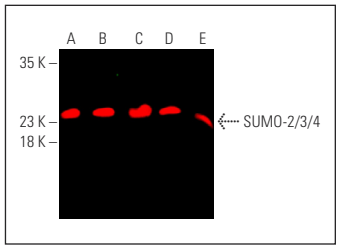
STORAGE

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

DATA



SUMO-2/3/4 (C-3): sc-393144. Western blot analysis of SUMO-2/3/4 expression in Hep G2 (**A**), MDA-MB-231 (**B**), SK-N-MC (**C**) and PC-12 (**D**) whole cell lysates and rat liver (**E**) and mouse liver (**F**) tissue extracts.



SUMO-2/3/4 (C-3): sc-393144. Near-infrared western blot analysis of SUMO-2/3/4 expression in Hep G2 (**A**), HeLa (**B**), C6 (**C**) and PC-12 (**D**) whole cell lysates and rat liver tissue extract (**E**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Jin, X., et al. 2018. Modulation of HSF1 activity through silencing of Ser303/Ser307 phosphorylation supports a metabolic program leading to age-related obesity and Insulin resistance. Mol. Cell. Biol. 38: e00095-18.
2. Fredericksen, F., et al. 2019. Sumoylation of nucleoprotein (NP) mediated by activation of NADPH oxidase complex is a consequence of oxidative cellular stress during infection by infectious salmon anemia (ISA) virus necessary to viral progeny. Virology 531: 269-279.
3. Xian, Y., et al. 2019. Exenatide mitigates inflammation and hypoxia along with improved angiogenesis in obese fat tissue. J. Endocrinol. 242: 79-89.
4. Wang, Y., et al. 2020. STUB1 is targeted by the SUMO-interacting motif of EBNA1 to maintain Epstein-Barr virus latency. PLoS Pathog. 16: e1008447.
5. Conde, J.N., et al. 2020. NS5 sumoylation directs nuclear responses that permit Zika virus to persistently infect human brain microvascular endothelial cells. J. Virol. 94: e01086-20.
6. Gusar, V., et al. 2022. Diagnostic potential of exosomal hypoxamiRs in the context of hypoxia-sumoylation-hypoxamiRs in early onset preeclampsia at the preclinical stage. Life 12: 101.
7. Lee, J.S., et al. 2022. SENP2 suppresses browning of white adipose tissues by de-conjugating SUMO from C/EBPβ. Cell Rep. 38: 110408.
8. Singhal, J., et al. 2022. Host SUMOylation pathway negatively regulates protective immune responses and promotes *Leishmania donovani* survival. Front. Cell. Infect. Microbiol. 12: 878136.
9. Jin, S., et al. 2022. Suppression of ACE2 SUMOylation protects against SARS-CoV-2 infection through TOLLIP-mediated selective autophagy. Nat. Commun. 13: 5204.

RESEARCH USE

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