SANTA CRUZ BIOTECHNOLOGY, INC.

SENP3 (E-7): sc-137219

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SUMO (small ubiquitin-related modifier), a member of the ubiquitin-like protein family, regulates diverse cellular functions of a variety of target proteins, including transcription, DNA repair, nucleocytoplasmic trafficking and chromosome segregation. SUMO precursor proteins undergo cleavage of the residues after the "GG" region by SUMO-specific proteases in maturation. This cleavage of the precursor is a prerequisite for subsequent sumoylation. The sentrin-specific (or SUMO-specific) protease (SENP) proteins belong to the peptidase C48 family and include SENP1-3 and SENP5-8. SENP1, SENP2 and SENP3 degrade UBL1 and SMT3H2 conjugates and subsequently release the monomers from sumoylated substrates. HIPK2 is a desumoylation target for SENP1 which shuttles between the cytoplasm and the nucleus. Mutation analyses reveal that SENP1 contains the nuclear export sequence (NES) within the extreme carboxyl-terminal region, and SENP1 is exported to the cytoplasm in a NES-dependent manner. SENP2 has been implicated as a downregulator of CTNNB1 levels and may therefore be a modulator of the Wnt pathway. SUMO protease SENP3 reverses the sumoylation of MEF-2 to augment its transcriptional and myogenic activities. SENP5 localizes to the nucleolus and preferentially processes SUMO-3. It is thought to play a role in mitosis and/or cytokinesis. SENP6 localizes to the cytoplasm and releases SUMO-1. Expression of SENP6 is higher in reproductive organs, indicating that it may mediate processes related to reproduction. SENP8 is involved in the release of sentrins.

REFERENCES

1. Gong, L., et al. 2000. Differential regulation of sentrinized proteins by a novel sentrin-specific protease. J. Biol. Chem. 275: 3355-3359.
2. Kim, K.I., et al. 2000. A new SUMO-1-specific protease, SUSP1, that is highly expressed in reproductive organs. J. Biol. Chem. 275: 14102-14106.

CHROMOSOMAL LOCATION

Genetic locus: SENP3 (human) mapping to 17p13.1; Senp3 (mouse) mapping to 11 B3.

SOURCE

SENP3 (E-7) is a mouse monoclonal antibody raised against amino acids 195-389 mapping within an internal region of SENP3 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.

SENP3 (E-7) is available conjugated to agarose (sc-137219 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137219 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137219 PE), fluorescein (sc-137219 FITC), Alexa Fluor® 488 (sc-137219 AF488), Alexa Fluor® 546 (sc-137219 AF546), Alexa Fluor® 594 (sc-137219 AF594) or Alexa Fluor® 647 (sc-137219 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137219 AF680) or Alexa Fluor® 790 (sc-137219 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SENP3 (E-7) is recommended for detection of SENP3 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).

Suitable for use as control antibody for SENP3 siRNA (h): sc-44451, SENP3 siRNA (m): sc-45718, SENP3 shRNA Plasmid (h): sc-44451-SH, SENP3 shRNA Plasmid (m): sc-45718-SH, SENP3 shRNA (h) Lentiviral Particles: sc-44451-V and SENP3 shRNA (m) Lentiviral Particles: sc-45718-V.

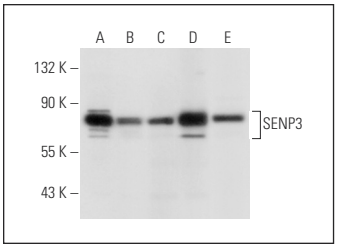
Molecular Weight of SENP3: 72 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat whole cell lysate: sc-2204 or Y79 cell lysate: sc-2240.

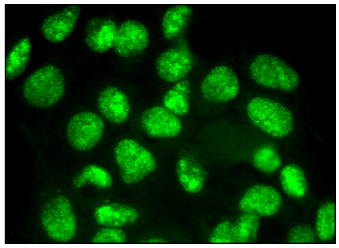
RECOMMENDED SUPPORT REAGENTS

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.

DATA



SENP3 (E-7): sc-137219. Western blot analysis of SENP3 expression in HeLa nuclear extract (**A**) and MCF7 (**B**), Jurkat (**C**), Y79 (**D**) and U-698-M (**E**) whole cell lysates.



SENP3 (E-7): sc-137219. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

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.

PROTOCOLS

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