SANTA CRUZ BIOTECHNOLOGY, INC.

SENP6 (79-M): sc-100585

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 MEF2 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.

CHROMOSOMAL LOCATION

Genetic locus: SENP6 (human) mapping to 6q14.1.

SOURCE

SENP6 (79-M) is a mouse monoclonal antibody raised against recombinant SENP6 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

SENP6 (79-M) is recommended for detection of SENP6 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)], 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 SENP6 siRNA (h): sc-61524, SENP6 shRNA Plasmid (h): sc-61524-SH and SENP6 shRNA (h) Lentiviral Particles: sc-61524-V.

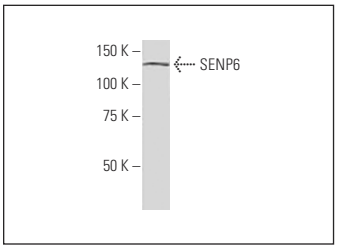
Molecular Weight of SENP6: 126 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, LNCaP cell lysate: sc-2231 or IMR-32 cell lysate: sc-2409.

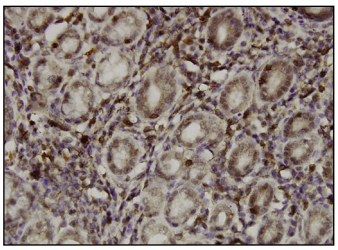
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SENP6 (79-M): sc-100585. Western blot analysis of SENP6 expression in IMR-32 whole cell lysate.



SENP6 (79-M): sc-100585. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2018. Determination of expression patterns of seven de-sumoylation enzymes in major ocular cell lines. Curr. Mol. Med. 18: 584-593.
2. Xiang, J.W., et al. 2019. Glucose oxidase- and UVA-induced changes in the expression patterns of seven de-sumoylation enzymes (SENPs) are associated with cataract development. Curr. Mol. Med. 19: 48-53.
3. Liu, K., et al. 2019. A fine-tuning mechanism underlying self-control for autophagy: deSUMOylation of BECN1 by SENP3. Autophagy 16: 975-990.
4. Colnaghi, L., et al. 2020. Neuronal localization of SENP proteins with super resolution microscopy. Brain Sci. 10: 778.
5. Amrute-Nayak, M., et al. 2022. SENP7 deSUMOylase-governed transcriptional program coordinates sarcomere assembly and is targeted in muscle atrophy. Cell Rep. 41: 111702.
6. Liu, Y., et al. 2023. Mitochondrial SENP2 regulates the assembly of SDH complex under metabolic stress. Cell Rep. 42: 112041.

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.