

SEN6 (C-14): sc-47379

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 (SEN) 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.

REFERENCES

- Gong, L., et al. 2000. Differential regulation of sentrinized proteins by a novel sentrin-specific protease. *J. Biol. Chem.* 275: 3355-3359.
- 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.
- Cheng, J., et al. 2004. SENP1 enhances androgen receptor-dependent transcription through desumoylation of histone deacetylase 1. *Mol. Cell. Biol.* 24: 6021-6028.
- Reverter, D., et al. 2004. A basis for SUMO protease specificity provided by analysis of human SENP2 and a SENP2-SUMO complex. *Structure* 12: 1519-1531.

CHROMOSOMAL LOCATION

Genetic locus: SENP6 (human) mapping to 6q14.1; Senp6 (mouse) mapping to 9 E1.

SOURCE

SEN6 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SENP6 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-47379 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SEN6 (C-14) is recommended for detection of SENP6 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)], 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).

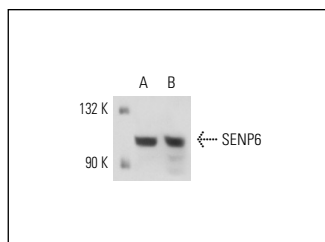
SEN6 (C-14) is also recommended for detection of SENP6 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SENP6 siRNA (h): sc-61524, SENP6 siRNA (m): sc-61525, SENP6 shRNA Plasmid (h): sc-61524-SH, SENP6 shRNA Plasmid (m): sc-61525-SH, SENP6 shRNA (h) Lentiviral Particles: sc-61524-V and SENP6 shRNA (m) Lentiviral Particles: sc-61525-V.

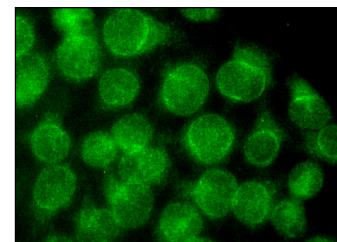
Molecular Weight of SENP6: 126 kDa.

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

DATA



SEN6 (C-14): sc-47379. Western blot analysis of SENP6 expression in HeLa (A) and LNCaP (B) whole cell lysates.



SEN6 (C-14): sc-47379. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Loriol, C., et al. 2012. Developmental regulation and spatiotemporal redistribution of the sumoylation machinery in the rat central nervous system. *PLoS One* 7: e33757.

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.



Try **SEN6 (79-M): sc-100585**, our highly recommended monoclonal alternative to SEN6 (C-14).