

SEN3 (C-13): sc-46639

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 (SEN3) proteins belong to the peptidase C48 family and include SEN1-3 and SEN5-8. SEN1, SEN2 and SEN3 degrade UBL1 and SMT3H2 conjugates and subsequently release the monomers from sumoylated substrates. HIPK2 is a desumoylation target for SEN1 which shuttles between the cytoplasm and the nucleus. Mutation analyses reveal that SEN1 contains the nuclear export sequence (NES) within the extreme carboxyl-terminal region, and SEN1 is exported to the cytoplasm in a NES-dependent manner. SEN2 has been implicated as a downregulator of CTNNB1 levels and may therefore be a modulator of the Wnt pathway. SUMO protease SEN3 reverses the sumoylation of MEF-2 to augment its transcriptional and myogenic activities. SEN5 localizes to the nucleolus and preferentially processes SUMO-3. It is thought to play a role in mitosis and/or cytokinesis. SEN6 localizes to the cytoplasm and releases SUMO-1. Expression of SEN6 is higher in reproductive organs, indicating that it may mediate processes related to reproduction. SEN8 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. Gregoire, S., et al. 2005. Association with class IIa histone deacetylases upregulates the sumoylation of MEF-2 transcription factors. *Mol. Cell. Biol.* 25: 2273-2287.
3. Reverter, D., et al. 2005. Structure of a complex between NEDD8 and the Ulp/SEN3 protease family member Den1. *J. Mol. Biol.* 345: 141-151.

CHROMOSOMAL LOCATION

Genetic locus: SEN3 (human) mapping to 17p13.1; Sen3 (mouse) mapping to 11 B3.

SOURCE

SEN3 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SEN3 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-46639 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SEN3 (C-13) is recommended for detection of SEN3 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).

SEN3 (C-13) is also recommended for detection of SEN3 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SEN3 siRNA (h): sc-44451, SEN3 siRNA (m): sc-45718, SEN3 shRNA Plasmid (h): sc-44451-SH, SEN3 shRNA Plasmid (m): sc-45718-SH, SEN3 shRNA (h) Lentiviral Particles: sc-44451-V and SEN3 shRNA (m) Lentiviral Particles: sc-45718-V.

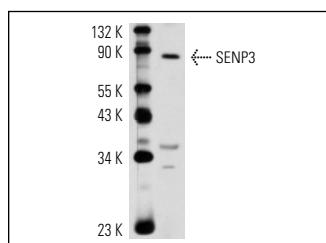
Molecular Weight of SEN3: 72 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or PC-3 nuclear extract: sc-2152.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SEN3 (C-13): sc-46639. Western blot analysis of SEN3 expression in HeLa nuclear extract.

RESEARCH USE

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

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Try **SEN3 (E-7): sc-137219** or **SEN3 (G-3): sc-133149**, our highly recommended monoclonal alternatives to SEN3 (C-13).