

# SEN3 (S-13): sc-46641

## 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 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 MEF2 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

- Gong, L., et al. 2000. Differential regulation of sentrinized proteins by a novel sentrin-specific protease. *J. Biol. Chem.* 275: 3355-3359.
- Gregoire, S., et al. 2005. Association with class II $\alpha$  histone deacetylases upregulates the sumoylation of MEF2 transcription factors. *Mol. Cell. Biol.* 25: 2273-2287.
- Reverter, D., et al. 2005. Structure of a complex between NEDD8 and the Ulp/SEN protease family member Den1. *J. Mol. Biol.* 345: 141-151.

## CHROMOSOMAL LOCATION

Genetic locus: SEN3 (human) mapping to 17p13; Senp3 (mouse) mapping to 11 B4.

## SOURCE

SEN3 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SEN3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46641 P, (100  $\mu$ g 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 (S-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  $\mu$ g per 100-500  $\mu$ g 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 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.

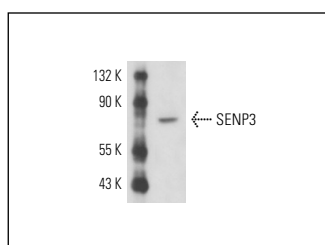
Molecular Weight of SEN3: 72 kDa.

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 (S-13): sc-46641. Western blot analysis of SEN3 expression in PC-3 nuclear extract.

## RESEARCH USE

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



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