

SEN8 (F-20): sc-46645

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.
- 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. SEN1 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 SEN2 and a SEN2-SUMO complex. *Structure* 12: 1519-1531.
- Kim, Y.H., et al. 2005. Desumoylation of homeodomain-interacting protein kinase 2 (HIPK2) through the cytoplasmic-nuclear shuttling of the SUMO-specific protease SEN1. *FEBS Lett.* 579: 6272-6278.

CHROMOSOMAL LOCATION

Genetic locus: SEN8 (human) mapping to 15q23; Senp8 (mouse) mapping to 9 B.

SOURCE

SEN8 (F-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SEN8 of human origin.

STORAGE

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

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-46645 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SEN8 (F-20) is recommended for detection of SEN8 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SEN8 (F-20) is also recommended for detection of SEN8 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for SEN8 siRNA (h): sc-44452, SEN8 siRNA (m): sc-45721, SEN8 shRNA Plasmid (h): sc-44452-SH, SEN8 shRNA Plasmid (m): sc-45721-SH, SEN8 shRNA (h) Lentiviral Particles: sc-44452-V and SEN8 shRNA (m) Lentiviral Particles: sc-45721-V.

Molecular Weight of SEN8: 24 kDa.

Positive Controls: mouse spleen extract: sc-2391.

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) 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.

RESEARCH USE

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

PROTOCOLS

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