SANTA CRUZ BIOTECHNOLOGY, INC.

# SENP8 (C-16): sc-46643

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*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.

## 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. 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.
3. Cheng, J., et al. 2004. SENP1 enhances androgen receptor-dependent transcription through desumoylation of histone deacetylase 1. Mol. Cell. Biol. 24: 6021-6028.
4. 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.
5. Kim, Y.H., et al. 2005. Desumoylation of homeodomain-interacting protein kinase 2 (HIPK2) through the cytoplasmic-nuclear shuttling of the SUMO-specific protease SENP1. FEBS Lett. 579: 6272-6278.


## CHROMOSOMAL LOCATION

Genetic locus: SENP8 (human) mapping to 15q23; Senp8 (mouse) mapping to 9 B.

## SOURCE

SENP8 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SENP8 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-46643 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SENP8 (C-16) is recommended for detection of SENP8 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).

SENP8 (C-16) is also recommended for detection of SENP8 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SENP8 siRNA (h): sc-44452, SENP8 siRNA (m): sc-45721, SENP8 shRNA Plasmid (h): sc-44452-SH, SENP8 shRNA Plasmid (m): sc-45721-SH, SENP8 shRNA (h) Lentiviral Particles: sc-44452-V and SENP8 shRNA (m) Lentiviral Particles: sc-45721-V.

Molecular Weight of SENP8: 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) 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.

## 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.