SANTA CRUZ BIOTECHNOLOGY, INC.

SENP1 (H-65): sc-67074

SANTA CRUZ BIOTECHNOLOGY

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 MEF-2 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.

CHROMOSOMAL LOCATION

Genetic locus: SENP1 (human) mapping to 12q13.11; Senp1 (mouse) mapping to 15 F1.

SOURCE

SENP1 (H-65) is a rabbit polyclonal antibody raised against amino acids 361-425 mapping within an internal region of SENP1 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.

APPLICATIONS

SENP1 (H-65) is recommended for detection of SENP1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SENP1 (H-65) is also recommended for detection of SENP1 in additional species, including equine, canine, bovine and porcine.

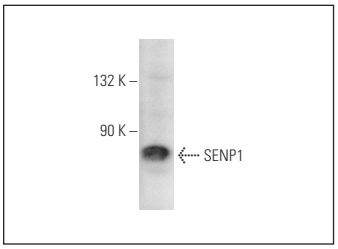
Suitable for use as control antibody for SENP1 siRNA (h): sc-44449, SENP1 siRNA (m): sc-45715, SENP1 shRNA Plasmid (h): sc-44449-SH, SENP1 shRNA Plasmid (m): sc-45715-SH, SENP1 shRNA (h) Lentiviral Particles: sc-44449-V and SENP1 shRNA (m) Lentiviral Particles: sc-45715-V.

Molecular Weight of SENP1: 73 kDa.

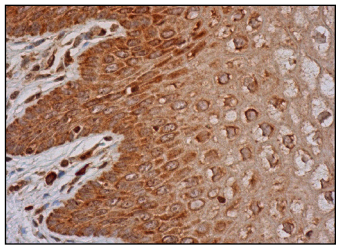
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



SENP1 (H-65): sc-67074. Western blot analysis of SENP1 expression in K-562 whole cell lysate.



SENP1 (H-65): sc-67074. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vagina tissue showing cytoplasmic and nuclear staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. 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.

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **SENP1 (C-12): sc-271360**, our highly recommended monoclonal alternative to SENP1 (H-65). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SENP1 (C-12): sc-271360**.