SANTA CRUZ BIOTECHNOLOGY, INC.

CSN7a (H-2): sc-514067

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The COP9 signalosome (CSN) complex is involved in several different developmental and cellular processes. The complex is made up of several widely expressed proteins: CSN1 (COPS1), CSN2 (COPS2), CSN3 (COPS3), CSN4 (COPS4), CSN5 (COPS5), CSN6 (COP6), CSN7a (COPS7, COPS7a) or CSN7b (COP7b) and CSN8 (COP8). The CSN complex acts as a regulator for the ubiquitin conjugation pathway by mediating the deneddylation of the SCF-type E3 ligase complexes, which leads to a decrease in ubiquitin ligase activity of SCF-complexes. It is also involved in the phosphorylation of p53, c-Jun, IκBα and IRF-8, as well as CSN-dependent phosphorylation of p53, and c-Jun protects and promotes degradation by the Ubl system. CSN7 is phosphorylated by CK2 and is composed of two subunits; a and b. CSN7a contains a PCI (proteasome CSN9 initiation factor 3) region, as well as a coiled-coil region and is predicted to interact with CSN2, CSN3, CSN4, CSN5, CSN6, CSN8, and GPS1. CSN7b contains only a PCI region and is predicted to interact with INT6.

REFERENCES

1. Seeger, M., et al. 1998. A novel protein complex involved in signal transduction possessing similarities to 26S proteasome subunits. FASEB J. 12: 469-478.
2. Bech-Otschir, D., et al. 2001. COP9 signalosome-specific phosphorylation targets p53 to degradation by the ubiquitin system. EMBO J. 20: 1630-1639.
3. Hoareau Alves, K., et al. 2002. Association of the mammalian proto-oncoprotein Int-6 with the three protein complexes eIF3, COP9 signalosome and 26S proteasome. FEBS Lett. 527: 15-21.
4. Groisman, R., et al. 2003. The ubiquitin ligase activity in the DDB2 and CSA complexes is differentially regulated by the COP9 signalosome in response to DNA damage. Cell 113: 357-367.
5. Uhle, S., et al. 2003. Protein kinase CK2 and protein kinase D are associated with the COP9 signalosome. EMBO J. 22: 1302-1312.
6. Berse, M., et al. 2004. Ubiquitin-dependent degradation of Id1 and Id3 is mediated by the COP9 signalosome. J. Mol. Biol. 343: 361-370.
7. Gemmill, R.M., et al. 2005. Growth suppression induced by the TRC8 hereditary kidney cancer gene is dependent upon JAB1/CSN5. Oncogene 24: 3503-3511.

CHROMOSOMAL LOCATION

Genetic locus: COPS7A (human) mapping to 12p13.31; Cops7a (mouse) mapping to 6 F2.

SOURCE

CSN7a (H-2) is a mouse monoclonal antibody raised against amino acids 72-112 mapping within an internal region of CSN7a of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CSN7a (H-2) is recommended for detection of CSN7a of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for CSN7a siRNA (h): sc-60463, CSN7a siRNA (m): sc-60464, CSN7a shRNA Plasmid (h): sc-60463-SH, CSN7a shRNA Plasmid (m): sc-60464-SH, CSN7a shRNA (h) Lentiviral Particles: sc-60463-V and CSN7a shRNA (m) Lentiviral Particles: sc-60464-V.

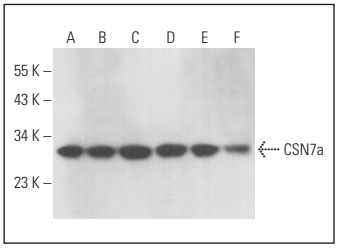
Molecular Weight of CSN7a: 30 kDa.

Positive Controls: human heart extract: sc-363763, HeLa whole cell lysate: sc-2200 or SK-N-MC nuclear extract: sc-2154.

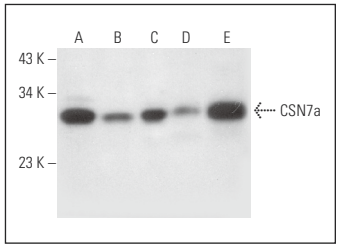
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CSN7a (H-2): sc-514067. Western blot analysis of CSN7a expression in HeLa (**A**), Hep G2 (**B**), A2058 (**C**), SK-MEL-24 (**D**), NIH/3T3 (**E**) and c4 (**F**) whole cell lysates.



CSN7a (H-2): sc-514067. Western blot analysis of CSN7a expression in HeLa (**A**) and JAR (**B**) whole cell lysates, SK-N-MC nuclear extract (**C**) and human lateral ventricle (**D**) and human heart (**E**) tissue extracts.

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 for detailed protocols and support products.