

CSN3 siRNA (h): sc-60457

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.

REFERENCES

1. Uhle, S., et al. 2003. Protein kinase CK2 and protein kinase D are associated with the COP9 signalosome. *EMBO J.* 22: 1302-1312.
2. Henriksen, J., et al. 2003. Amp TP53 for proteasome-mediated degradation. *Oncogene* 22: 5358-5361.
3. Yan, J., et al. 2003. COP9 signalosome subunit 3 is essential for maintenance of cell proliferation in the mouse embryonic epiblast. *Mol. Cell. Biol.* 23: 6798-6808.
4. van Dartel, M., et al. 2004. Amplification and overexpression of genes in 17p11.2-p12 in osteosarcoma. *Cancer Genet. Cytogenet.* 153: 77-80.
5. Banda, N.K., et al. 2005. Intracellular IL-1 receptor antagonist type 1 inhibits IL-1-induced cytokine production in keratinocytes through binding to the third component of the COP9 signalosome. *J. Immunol.* 174: 3608-3616.

CHROMOSOMAL LOCATION

Genetic locus: COPS3 (human) mapping to 17p11.2.

PRODUCT

CSN3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CSN3 shRNA Plasmid (h): sc-60457-SH and CSN3 shRNA (h) Lentiviral Particles: sc-60457-V as alternate gene silencing products.

For independent verification of CSN3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60457A, sc-60457B and sc-60457C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μl of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μl of RNase-free water makes a 10 μM solution in a 10 μM Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CSN3 siRNA (h) is recommended for the inhibition of CSN3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μM in 66 μl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

CSN3 (RR12): sc-100693 is recommended as a control antibody for monitoring of CSN3 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CSN3 gene expression knockdown using RT-PCR Primer: CSN3 (h)-PR: sc-60457-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, F., et al. 2018. Novel oncogene COPS3 interacts with Beclin1 and Raf-1 to regulate metastasis of osteosarcoma through autophagy. *J. Exp. Clin. Cancer Res.* 37: 135.

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.