

CSN1 siRNA (m): sc-60456

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 (COPS6), CSN7a (COPS7, COPS7a) or CSN7b (COPS7b) and CSN8 (COPS8). 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, I κ B α and IRF-8, as well as the CSN-dependent phosphorylation of p53, c-Jun protects and promotes degradation by the Ubl system.

REFERENCES

1. Bech-Otschir, D., et al. 2001. COP9 signalosome-specific phosphorylation targets p53 to degradation by the ubiquitin system. *EMBO J.* 20: 1630-1639.
2. Lyapina, S., et al. 2001. Promotion of NEDD-CUL1 conjugate cleavage by COP9 signalosome. *Science* 292: 1382-1385.
3. Tsuge, T., et al. 2001. The subunit 1 of the COP9 signalosome suppresses gene expression through its N-terminal domain and incorporates into the complex through the PCI domain. *J. Mol. Biol.* 305: 1-9.
4. Mundt, K.E., et al. 2002. Deletion mutants in COP9/signalosome subunits in fission yeast *Schizosaccharomyces pombe* display distinct phenotypes. *Mol. Biol. Cell* 13: 493-502.
5. 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.
6. Uhle, S., et al. 2003. Protein kinase CK2 and protein kinase D are associated with the COP9 signalosome. *EMBO J.* 22: 1302-1312.
7. Harari-Steinberg, O., et al. 2004. The COP9 signalosome: mediating between kinase signaling and protein degradation. *Curr. Protein Pept. Sci.* 5: 185-189.
8. Wang, Y., et al. 2004. Hepatopoietin interacts directly with COP9 signalosome and regulates AP-1 activity. *FEBS Lett.* 572: 85-91.

CHROMOSOMAL LOCATION

Genetic locus: Gps1 (mouse) mapping to 11 E2.

PRODUCT

CSN1 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CSN1 shRNA Plasmid (m): sc-60456-SH and CSN1 shRNA (m) Lentiviral Particles: sc-60456-V as alternate gene silencing products.

For independent verification of CSN1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60456A, sc-60456B and sc-60456C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CSN1 siRNA (m) is recommended for the inhibition of CSN1 expression in mouse 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 μ M in 66 μ l. 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

CSN1 (E-4): sc-514086 is recommended as a control antibody for monitoring of CSN1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CSN1 gene expression knockdown using RT-PCR Primer: CSN1 (m)-PR: sc-60456-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.