SANTA CRUZ BIOTECHNOLOGY, INC.

CSN7b siRNA (m): sc-60466

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 Int-6.

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. Wei, N., et al. 1998. The COP9 complex is conserved between plants and mammals and is related to the 26S proteasome regulatory complex. Curr. Biol. 8: 919-922.
3. Bech-Otschir, D., et al. 2001. COP9 signalosome-specific phosphorylation targets p53 to degradation by ubiquitin system. EMBO J. 20: 1630-1639.
4. Hoareau Alves, K., et al. 2002. Association of the complexes eIF3, COP9 signalosome and 26S proteasome. FEBS Lett. 527: 15-21.
5. Groisman, R., et al. 2003. The ubiquitin ligase activity in the DDB2 and regulated by the COP9 signalosome in response to DNA damage. Cell 113: 357-367.
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: Cops7b (mouse) mapping to 1 D.

PRODUCT

CSN7b 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CSN7b shRNA Plasmid (m): sc-60466-SH and CSN7b shRNA (m) Lentiviral Particles: sc-60466-V as alternate gene silencing products.

For independent verification of CSN7b (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-60466A, sc-60466B and sc-60466C.

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

CSN7b siRNA (m) is recommended for the inhibition of CSN7b 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CSN7b gene expression knockdown using RT-PCR Primer: CSN7b (m)-PR: sc-60466-PR (20 µl). 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.