



PAC4 siRNA (m): sc-151984

BACKGROUND

In eukaryotic cells, the selective breakdown of cellular proteins is ensured by their ubiquitination and subsequent degradation by the 26S proteasome. The 26S proteasome is a protease complex that selectively breaks down proteins that have been modified by polyubiquitin chains. It is made up of two multisubunit complexes: the 20S proteasome chamber, which serves as the proteolytic core of the complex, and two 19S regulatory particles, which recognize and unfold ubiquitinated proteins. PAC4 (proteasome assembly chaperone 4), also known as PSMG4 (proteasome (prosome, macropain) assembly chaperone 4), is a 123 amino acid mouse protein that functions as a chaperone which is thought to promote the assembly of the 20S proteasome.

REFERENCES

1. Kanayama, H.O., et al. 1992. Demonstration that a human 26S proteolytic complex consists of a proteasome and multiple associated protein components and hydrolyzes ATP and ubiquitin-ligated proteins by closely linked mechanisms. *Eur. J. Biochem.* 206: 567-578.
2. Peters, J.M., et al. 1994. Distinct 19S and 20S subcomplexes of the 26S proteasome and their distribution in the nucleus and the cytoplasm. *J. Biol. Chem.* 269: 7709-7718.
3. Coux, O., et al. 1996. Structure and functions of the 20S and 26S proteasomes. *Annu. Rev. Biochem.* 65: 801-847.
4. Heinemeyer, W., et al. 1997. The active sites of the eukaryotic 20S proteasome and their involvement in subunit precursor processing. *J. Biol. Chem.* 272: 25200-25209.
5. Gerards, W.L., et al. 1998. Structure and assembly of the 20S proteasome. *Cell. Mol. Life Sci.* 54: 253-262.
6. Bochtler, M., et al. 1999. The proteasome. *Annu. Rev. Biophys. Biomol. Struct.* 28: 295-317.
7. Arendt, C.S., et al. 1999. Eukaryotic 20S proteasome catalytic subunit propeptides prevent active site inactivation by N-terminal acetylation and promote particle assembly. *EMBO J.* 18: 3575-3585.

CHROMOSOMAL LOCATION

Genetic locus: Psmg4 (mouse) mapping to 13 A3.3.

PRODUCT

PAC4 siRNA (m) is a target-specific 19-25 nt siRNA 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 PAC4 shRNA Plasmid (m): sc-151984-SH and PAC4 shRNA (m) Lentiviral Particles: sc-151984-V as alternate gene silencing products.

PROTOCOLS

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

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

PAC4 siRNA (m) is recommended for the inhibition of PAC4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PAC4 gene expression knockdown using RT-PCR Primer: PAC4 (m)-PR: sc-151984-PR (20 μ l, 420 bp). 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.