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SANTA CRUZ BIOTECHNOLOGY, INC.

PSMD8 siRNA (m): sc-152563

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 multi-subunit 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. PSMD8 (proteasome (prosome, macropain) 26S subunit, non-ATPase, 8), also known as HIP6, HYPF, Nin1p, Rpn12, S14 or p31, is a 257 amino acid protein and regulatory component of the 26S proteasome belonging to the proteasome subunit S14 family. PSMD8 is required for the activation of CDC28 kinase, and is encoded by a gene that maps to human chromosome 19q13.2.

REFERENCES

1. Thinnes, F.P., et al 1984. On a basic 31 kDa muscle membrane protein in cattle and pig, presumably equivalent to the class II antigen associated p31 molecule. Anim. Blood Groups Biochem. Genet. 15: 181-189.
2. Kominami, K., et al. 1995. Nin1p, a regulatory subunit of the 26S proteasome, is necessary for activation of Cdc28p kinase of *Saccharomyces cerevisiae*. EMBO J. 14: 3105-3115.
3. Zhou, J., et al. 1996. Expression of early lung cancer detection marker p31 in neoplastic and non-neoplastic respiratory epithelium. Lung Cancer 14: 85-97.
4. Bosak, N., et al. 2003. Construction of a high-resolution comparative gene map between swine chromosome region 6q11→q21 and human chromosome 19 q-arm by RH mapping of 51 genes. Cytogenet. Genome Res. 102: 109-115.
5. Shibahara, T., et al. 2004. Mass spectrometric analysis of expression of ATPase subunits encoded by duplicated genes in the 19S regulatory particle of rice 26S proteasome. Arch. Biochem. Biophys. 421: 34-41.

CHROMOSOMAL LOCATION

Genetic locus: Psmd8 (mouse) mapping to 7 B1.

PRODUCT

PSMD8 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 PSMD8 shRNA Plasmid (m): sc-152563-SH and PSMD8 shRNA (m) Lentiviral Particles: sc-152563-V as alternate gene silencing products.

For independent verification of PSMD8 (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-152563A, sc-152563B and sc-152563C.

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 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

PSMD8 siRNA (m) is recommended for the inhibition of PSMD8 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.

GENE EXPRESSION MONITORING

PSMD8 (H-11): sc-514053 is recommended as a control antibody for monitoring of PSMD8 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 PSMD8 gene expression knockdown using RT-PCR Primer: PSMD8 (m)-PR: sc-152563-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.