SANTA CRUZ BIOTECHNOLOGY, INC.

CPA6 siRNA (h): sc-77855

BACKGROUND

Members of the M14 metallocarboxypeptidase protein family serve many diverse functions and are divided into three subfamilies based on structure, function and amino acid sequence similarity. As a member of the A/B subfamily, CPA6 (carboxypeptidase A6) is a 437 amino acid secreted, zinc-binding protein that contains a characteristic propetide at the amino terminus, which is cleaved off upon enzyme activation. Although expressed broadly in embryonic tissues, CPA6 is found at highest levels in the adult olfactory bulb and epididymus. CPA6 functions to cleave large C-terminal hydrophobic residues off of proteins and protein substrates and is likely involved in the extracellular processing of neuropeptides. Mutations in the gene encoding CPA6 have been linked to Duane syndrome, a congential eye-movement disorder characterized by the abnormal development of cranial nerve VI (the abducens nerve). There are three isoforms of CPA6 that exist as a result of alternative splicing events.

REFERENCES

1. Pizzuti, A., et al. 2002. A peptidase gene in chromosome 8q is disrupted by a balanced translocation in a duane syndrome patient. Invest. Ophthalmol. Vis. Sci. 43: 3609-3612.
2. Wei, S., et al. 2002. Identification and characterization of three members of the human metallocarboxypeptidase gene family. J. Biol. Chem. 277: 14954-14964.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 126800. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Fontenele-Neto, J.D., et al. 2005. Identification and distribution of mouse carboxypeptidase A-6. Brain Res. Mol. Brain Res. 137: 132-142.
5. Lyons, P.J., et al. 2008. Characterization of carboxypeptidase A6, an extracellular matrix peptidase. J. Biol. Chem. 283: 7054-7063.
6. Fialka, F., et al. 2008. CPA6, FMO2, LGI1, SIAT1 and TNC are differentially expressed in early- and late-stage oral squamous cell carcinoma—a pilot study. Oral Oncol. 44: 941-948.

CHROMOSOMAL LOCATION

Genetic locus: CPA6 (human) mapping to 8q13.2.

PRODUCT

CPA6 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 CPA6 shRNA Plasmid (h): sc-77855-SH and CPA6 shRNA (h) Lentiviral Particles: sc-77855-V as alternate gene silencing products.

For independent verification of CPA6 (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-77855A, sc-77855B and sc-77855C.

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

CPA6 siRNA (h) is recommended for the inhibition of CPA6 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CPA6 gene expression knockdown using RT-PCR Primer: CPA6 (h)-PR: sc-77855-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.