SANTA CRUZ BIOTECHNOLOGY, INC.

CPZ siRNA (m): sc-142555

BACKGROUND

Carboxypeptidases function as proteases and cleave single amino acids from the C-terminus of peptides or proteins. There are three main groups of carboxypeptidases, namely serine-, cysteine- and metallo-enzymes. CPZ (carboxypeptidase Z) is a 652 amino acid secreted protein of the extracellular matrix that cleaves substrates with C-terminal arginine residues. A member of the metallocarboxypeptidase family, CPZ contains one FZ (frizzled) domain, a Cys-rich domain that shares similarity with Wnt-binding proteins, and is thought to selectively process extracellular proteins. Widely expressed, CPZ is broadly distributed in early embryogenesis, with high levels of expression in invasive trophoblasts of placenta, as well as pituitary gland and amnion cells. CPZ exists as two alternatively spliced isoforms that are encoded by a gene located on human chromosome 4.

REFERENCES

1. Song, L. and Fricker, L.D. 1997. Cloning and expression of human carboxypeptidase Z, a novel metallocarboxypeptidase. J. Biol. Chem. 272: 10543-10550.
2. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 603105. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Novikova, E.G. and Fricker, L.D. 1999. Purification and characterization of human metallocarboxypeptidase Z. Biochem. Biophys. Res. Commun. 256: 564-568.
4. Novikova, E.G., Reznik, S.E., Varlamov, O. and Fricker, L.D. 2000. Carboxypeptidase Z is present in the regulated secretory pathway and extracellular matrix in cultured cells and in human tissues. J. Biol. Chem. 275: 4865-4870.
5. Reznik, S.E. and Fricker, L.D. 2001. Carboxypeptidases from A to Z: implications in embryonic development and Wnt binding. Cell. Mol. Life Sci. 58: 1790-1804.
6. Fan, X., Olson, S.J., Blevins, L.S., Allen, G.S. and Johnson, M.D. 2002. Immunohistochemical localization of carboxypeptidases D, E, and Z in pituitary adenomas and normal human pituitary. J. Histochem. Cytochem. 50: 1509-1516.

CHROMOSOMAL LOCATION

Genetic locus: Cpz (mouse) mapping to 5 B3.

PRODUCT

CPZ 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 CPZ shRNA Plasmid (m): sc-142555-SH and CPZ shRNA (m) Lentiviral Particles: sc-142555-V as alternate gene silencing products.

For independent verification of CPZ (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-142555A, sc-142555B and sc-142555C.

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

CPZ siRNA (m) is recommended for the inhibition of CPZ 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 CPZ gene expression knockdown using RT-PCR Primer: CPZ (m)-PR: sc-142555-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.