SANTA CRUZ BIOTECHNOLOGY, INC.

CPXM siRNA (m): sc-142553

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. Belonging to the N/E subfamily, CPXM (metallocarboxypeptidase CPX-1) is a 734 amino acid protein that contains a F5/8 type C domain and likely binds one zinc ion per subunit. Most members of the N/E subfamily contain several domains, including an active carboxypeptidase domain and signal peptide, and are thought to function mostly in protein-protein interactions and/or protein-membrane interactions, thereby targeting the protein to specific locations within the secretory pathway. CPXM is a unique member of this subfamily in that it does not appear to exhibit any enzymatic activity due to lack of several active-site residues that are present in the catalytic domain of other members of the N/E subfamily. Studies showing that CPXM expression is regulated during osteoclastogenesis suggest that CPXM may play a role in osteoclast differentiation. There are two isoforms of CPXM which are a result of alternative splicing events.

REFERENCES

1. Lei, Y., et al. 1999. Identification of mouse CPX-1, a novel member of the metallocarboxypeptidase gene family with highest similarity to CPX-2. DNA Cell Biol. 18: 175-185.
2. Reznik, S.E., et al. 2001. Carboxypeptidases from A to z: implications in embryonic development and Wnt binding. Cell. Mol. Life Sci. 58: 1790-1804.
3. Wei, S., et al. 2002. Identification and characterization of three members of the human metallocarboxypeptidase gene family. J. Biol. Chem. 277: 14954-14964.
4. Chang, E.J., et al. 2004. Elucidation of CPX-1 involvement in RANKL-induced osteoclastogenesis by a proteomics approach. FEBS Lett. 564: 166-170.
5. Hillman, R.T., et al. 2004. An unappreciated role for RNA surveillance. Genome Biol. 5: R8.
6. Pallarès, I., et al. 2005. Structure of human carboxypeptidase A4 with its endogenous protein inhibitor, latexin. Proc. Natl. Acad. Sci. USA 102: 3978-3983.

CHROMOSOMAL LOCATION

Genetic locus: Cpxm1 (mouse) mapping to 2 F1.

PRODUCT

CPXM 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 CPXM shRNA Plasmid (m): sc-142553-SH and CPXM shRNA (m) Lentiviral Particles: sc-142553-V as alternate gene silencing products.

For independent verification of CPXM (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-142553A, sc-142553B and sc-142553C.

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

CPXM siRNA (m) is recommended for the inhibition of CPXM 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 CPXM gene expression knockdown using RT-PCR Primer: CPXM (m)-PR: sc-142553-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.