SANTA CRUZ BIOTECHNOLOGY, INC.

CPM siRNA (m): sc-72987

BACKGROUND

Carboxypeptidase M (CPM) is a 443 amino acid protein belonging to the metallo-carboxypeptidase (metallo-CP) family. Localized to the cell membrane, CPM contains hydrophobic regions in the N and C- termini and has six potential asparagine-linked glycosylation sites. Functionally, CPM specifically removes C-terminal basic amino acids (arginine or lysine) from proteins and polypeptides and is believed to play a role in monocyte to macrophage differentiation. CPM is also thought to play an important role in the control of peptide hormone and growth factor activity at the cell surface, as well as in the membrane-localized degradation of extracellular proteins. Three isoforms of this protein exist as a result of alternative splicing events.

REFERENCES

1. Rehli, M., et al. 1995. Carboxypeptidase M is identical to the MAX.1 antigen and its expression is associated with monocyte to macrophage differentiation. J. Biol. Chem. 270: 15644-15649.
2. Krause, S.W., et al. 1998. Carboxypeptidase M as a marker of macrophage maturation. Immunol. Rev. 161: 119-127.
3. Rehli, M., et al. 2000. The membrane-bound ectopeptidase CPM as a marker of macrophage maturation *in vitro* and *in vivo.* Adv. Exp. Med. Biol. 477: 205-216.
4. Reverter, D., et al. 2004. Crystal structure of human carboxypeptidase M, a membrane-bound enzyme that regulates peptide hormone activity. J. Mol. Biol. 338: 257-269.
5. Skidgel, R.A., et al. 2006. Kinin- and angiotensin-converting enzyme (ACE) inhibitor-mediated nitric oxide production in endothelial cells. Biol. Chem. 387: 159-165.
6. Deiteren, K., et al. 2007. The role of the S1 binding site of carboxypeptidase M in substrate specificity and turn-over. Biochim. Biophys. Acta 1774: 267-277.

CHROMOSOMAL LOCATION

Genetic locus: Cpm (mouse) mapping to 10 D2.

PRODUCT

CPM 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 CPM shRNA Plasmid (m): sc-72987-SH and CPM shRNA (m) Lentiviral Particles: sc-72987-V as alternate gene silencing products.

For independent verification of CPM (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-72987A, sc-72987B and sc-72987C.

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

CPM siRNA (m) is recommended for the inhibition of CPM 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 CPM gene expression knockdown using RT-PCR Primer: CPM (m)-PR: sc-72987-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.