SANTA CRUZ BIOTECHNOLOGY, INC.

CPVL siRNA (h): sc-89754

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. CPVL (carboxypeptidase, vitellogenic-like), also known as HVLP (VCP-like protein), is a serine carboxypeptidase that is similar to the vitellogenc carboxypeptidase found in mosquito ovaries. Belonging to the peptidase S10 family, CPVL is expressed in myeloid cells of the immune system and is also found in spleen, kidneys, placenta and heart. CPVL contains four putative N-glycosylation sites and a serine carboxypeptidase active site. During monocyte maturation into macrophages, CPVL expression is induced. This suggests a possible role for CPVL in phagocytosis, antigen processing and organization of the innate immune response.

REFERENCES

1. Mahoney, J.A., et al. 2001. Cloning and characterization of CPVL, a novel serine carboxypeptidase, from human macrophages. Genomics 72: 243-251.
2. Stanton, L.A., et al. 2003. Immunophenotyping of macrophages in human pulmonary tuberculosis and sarcoidosis. Int. J. Exp. Pathol. 84: 289-304.
3. Sleat, D.E., et al. 2006. Identification and validation of mannose 6-phosphate glycoproteins in human plasma reveal a wide range of lysosomal and non-lysosomal proteins. Mol. Cell. Proteomics 5: 1942-1956.
4. Lee, T.H., et al. 2006. Tissue expression of the novel serine carboxypeptidase Scpep1. J. Histochem. Cytochem. 54: 701-711.
5. Mittapalli, O., et al. 2006. Characterization of a serine carboxypeptidase in the salivary glands and fat body of the orange wheat blossom midge, *Sitodiplosis mosellana (Diptera: Cecidomyiidae).* Insect Biochem. Mol. Biol. 36: 154-160.
6. Harris, J., et al. 2006. A vitellogenic-like carboxypeptidase expressed by human macrophages is localized in endoplasmic reticulum and membrane ruffles. Int. J. Exp. Pathol. 87: 29-39.

CHROMOSOMAL LOCATION

Genetic locus: CPVL (human) mapping to 7p14.3.

PRODUCT

CPVL 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 CPVL shRNA Plasmid (h): sc-89754-SH and CPVL shRNA (h) Lentiviral Particles: sc-89754-V as alternate gene silencing products.

For independent verification of CPVL (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-89754A, sc-89754B and sc-89754C.

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

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

GENE EXPRESSION MONITORING

CPVL (H-7): sc-376658 is recommended as a control antibody for monitoring of CPVL 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 CPVL gene expression knockdown using RT-PCR Primer: CPVL (h)-PR: sc-89754-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.