SANTA CRUZ BIOTECHNOLOGY, INC.

CRIM1 siRNA (h): sc-94828

BACKGROUND

CRIM1 (cysteine-rich motor neuron 1) is a glycosylated type I transmembrane protein expressed in pericytes surrounding the arterial vasculature, podocytes, parietal cells, and mesangial cells of the glomerulus and in the developing spinal cord. It consists of six chordin-like cysteine-rich repeats (CRRs) and an N-terminal Insulin-like growth factor binding protein-like motif. The CRRs are contained in the extracellular domain which can be cleaved and released as a secreted ectodomain from the cell membrane. CRIM1 may be involved in the regulation of BMP signaling activity in kidney as well as various other tissues. CRIM1 interacts with BMP4 and BMP7 via the CRRs and functions as an antagonist. This interaction leads to the tethering of pre-BMP to the cell surface and reduced production, processing and secretion of mature BMP. In addition, CRIM1 may also play a role in capillary formation and maintenance during angiogenesis.

REFERENCES

1. Kolle, G., et al. 2000. CRIM1, a novel gene encoding a cysteine-rich repeat protein, is developmentally regulated and implicated in vertebrate CNS development and organogenesis. Mech. Dev. 90: 181-193.
2. Georgas, K., et al. 2000. Characterisation of CRIM1 expression in the developing mouse urogenital tract reveals a sexually dimorphic gonadal expression pattern. Dev. Dyn. 219: 582-587.
3. Kolle, G., et al. 2002. *In ovo* electroporation of CRIM1 in the developing chick spinal cord. Dev. Dyn. 226: 107-111.
4. Glienke, J., et al. 2002. CRIM1 is involved in endothelial cell capillary formation *in vitro* and is expressed in blood vessels *in vivo*. Mech. Dev. 119: 165-175.
5. Wilkinson, L., et al. 2003. CRIM1 regulates the rate of processing and delivery of bone morphogenetic proteins to the cell surface. J. Biol. Chem. 278: 34181-34188.
6. Liu, F., et al. 2006. Oncogenic mutations cause dramatic, qualitative changes in the transcriptional activity of c-Myb. Oncogene 25: 795-805.

CHROMOSOMAL LOCATION

Genetic locus: CRIM1 (human) mapping to 2p22.3.

PRODUCT

CRIM1 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 CRIM1 shRNA Plasmid (h): sc-94828-SH and CRIM1 shRNA (h) Lentiviral Particles: sc-94828-V as alternate gene silencing products.

For independent verification of CRIM1 (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-94828A, sc-94828B and sc-94828C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CRIM1 siRNA (h) is recommended for the inhibition of CRIM1 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

CRIM1 (CREX-2): sc-73860 is recommended as a control antibody for monitoring of CRIM1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CRIM1 gene expression knockdown using RT-PCR Primer: CRIM1 (h)-PR: sc-94828-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.