SANTA CRUZ BIOTECHNOLOGY, INC.

CRTAC1 siRNA (m): sc-142587

BACKGROUND

CRTAC1 (cartilage acidic protein 1), also known as CEP-68 (68 kDa chondrocyte-expressed protein) or ASPIC, is a 661 amino acid secreted protein. CRTAC1 is O-glycosylated and contains one EGF-like domain and four FG-GAP repeats. Up-regulated in mesenchymal stem cells undergoing chondrogenic differentiation and also by growth factor BMP-4, CRTAC1 is found in the interterritorial matrix of articular deep zone cartilage. CRTAC1 is expressed as three isoforms produced by alternative splicing events. All isoforms are expressed in bone, cartilage and lung, while isoforms 1 and 2 are expressed in the brain. The gene that encodes CRTAC1 maps to human chromosome 10, which contains over 800 genes and 135 million nucleotides, making up nearly 4.5% of the human genome.

REFERENCES

1. Steck, E., et al. 2001. Chondrocyte expressed protein-68 (CEP-68), a novel human marker gene for cultured chondrocytes. Biochem. J. 353: 169-174.
2. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
3. Grupe, A., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. Am. J. Hum. Genet. 78: 78-88.
4. Grgurevic, L., et al. 2007. Detection of bone and cartilage-related proteins in plasma of patients with a bone fracture using liquid chromatography-mass spectrometry. Int. Orthop. 31: 743-751.
5. Steck, E., et al. 2007. Chondrocyte secreted CRTAC1: a glycosylated extracellular matrix molecule of human articular cartilage. Matrix Biol. 26: 30-41.

CHROMOSOMAL LOCATION

Genetic locus: Crtac1 (mouse) mapping to 19 C3.

PRODUCT

CRTAC1 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 CRTAC1 shRNA Plasmid (m): sc-142587-SH and CRTAC1 shRNA (m) Lentiviral Particles: sc-142587-V as alternate gene silencing products.

For independent verification of CRTAC1 (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-142587A, sc-142587B and sc-142587C.

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.

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

CRTAC1 siRNA (m) is recommended for the inhibition of CRTAC1 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 CRTAC1 gene expression knockdown using RT-PCR Primer: CRTAC1 (m)-PR: sc-142587-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.