SANTA CRUZ BIOTECHNOLOGY, INC.

CMBL siRNA (h): sc-92035

BACKGROUND

CMBL (Carboxymethylenebutenolidase homolog) is a 245 amino acid cytosolic protein and cysteine hydrolase that preferentially cleaves cyclic esters. A member of the dienelactone hydrolase family, CMBL is the human homolog of *Pseudomonas* dienelactone hydrolase, a protein that participates in the bacterial halocatechol degradation pathway. CMBL is ubiquitously expressed with high expression in liver, colon, kidney and small intestine, where it acts as a bioactivating enzyme for a prodrug type angiotensin II type 1 receptor antagonist known as olmesartan medoxomil. CMBL is inhibited by p-chloromercuribenzoate (PCMB) and is encoded by a gene that maps to human chromosome 5p15.2. Chromosome 5 contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm, or of chromosome 5 altogether, is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Nussberger, J., et al. 2004. Antagonizing the angiotensin II subtype 1 receptor: a focus on olmesartan medoxomil. Clin. Ther. 26: A12-A20.
2. Mire, D.E., et al. 2005. A review of the structural and functional features of olmesartan medoxomil, an angiotensin receptor blocker. J. Cardiovasc. Pharmacol. 46: 585-593.
3. Vera-Carbonell, A., et al. 2009. Characterization of a *de novo* complex chromosomal rearrangement in a patient with cri-du-chat and trisomy 5p syndromes. Am. J. Med. Genet. A 149A: 2513-2521.
4. Ravandi, F., et al. 2009. Superior outcome with hypomethylating therapy in patients with acute myeloid leukemia and high-risk myelodysplastic syndrome and chromosome 5 and 7 abnormalities. Cancer 115: 5746-5751.
5. Sazawal, S., et al. 2009. Haematological & molecular profile of acute myelogenous leukaemia in India. Indian J. Med. Res. 129: 256-261.

CHROMOSOMAL LOCATION

Genetic locus: CMBL (human) mapping to 5p15.2.

PRODUCT

CMBL 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 CMBL shRNA Plasmid (h): sc-92035-SH and CMBL shRNA (h) Lentiviral Particles: sc-92035-V as alternate gene silencing products.

For independent verification of CMBL (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-92035A, sc-92035B and sc-92035C.

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

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

CMBL (B-5): sc-514233 is recommended as a control antibody for monitoring of CMBL 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 CMBL gene expression knockdown using RT-PCR Primer: CMBL (h)-PR: sc-92035-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.