SANTA CRUZ BIOTECHNOLOGY, INC.

C/EBP ζ siRNA (h): sc-94538

BACKGROUND

C/EBP ζ (CCAAT/enhancer-binding protein ζ), also known as CBF, CBF2, NOC1 or HSP-CBF is a 1,054 amino acid nuclear protein belonging to the CBF/MAK21 family. C/EBP ζ stimulates transcription from the HSP70 and HSP40 promoters in a NF-Y dependent manner, requiring an intact NF-Y trimer which binds to the DNA. C/EBP ζ is thought to be a potential tumor suppressor gene, and aberrant methylation of the C/EBP ζ promoter may be involved with acute myeloid leukemia. The C/EBP ζ gene is conserved in a wide number of species including chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish and *C. elegans* and is located on human chromosome 2. Chromosome 2, the second largest human chromosome, consists of 237 million bases encoding over 1,400 genes, comprising approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2.

REFERENCES

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2. Hoeppner, M.A., et al. 1996. Cloning and characterization of mouse CCAAT binding factor. Nucleic Acids Res. 24: 1091-1098.
3. Iouzalen, N., et al. 2001. LAP, a lymphocyte activation gene-3 (LAG-3)-associated protein that binds to a repeated EP motif in the intracellular region of LAG-3, may participate in the down-regulation of the CD3/TCR activation pathway. Eur. J. Immunol. 31: 2885-2891.
4. Imbriano, C., et al. 2001. HSP-CBF is an NF-Y-dependent coactivator of the heat shock promoters CCAAT boxes. J. Biol. Chem. 276: 26332-26339.
5. Uramoto, H., et al. 2003. Physical interaction of tumour suppressor p53/p73 with CCAAT-binding transcription factor 2 (CTF2) and differential regulation of human high-mobility group 1 (HMG1) gene expression. Biochem. J. 371: 301-310.
6. Qian, J., et al. 2005. Quantitative study on C/EBP ζ gene transcripts in patients with chronic myeloid leukemia using real-time quantitative PCR. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 22: 628-631.

CHROMOSOMAL LOCATION

Genetic locus: CEBPZ (human) mapping to 2p22.2.

PRODUCT

C/EBP ζ 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 C/EBP ζ shRNA Plasmid (h): sc-94538-SH and C/EBP ζ shRNA (h) Lentiviral Particles: sc-94538-V as alternate gene silencing products.

For independent verification of C/EBP ζ (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-94538A, sc-94538B and sc-94538C.

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

C/EBP ζ siRNA (h) is recommended for the inhibition of C/EBP ζ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor C/EBP ζ gene expression knockdown using RT-PCR Primer: C/EBP ζ (h)-PR: sc-94538-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.

PROTOCOLS

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