SANTA CRUZ BIOTECHNOLOGY, INC.

# C/EBP β siRNA (m): sc-29862

## BACKGROUND

CCAAT-enhancer binding proteins (C/EBP) are basic region/leucine zipper (bZIP) transcription factors selectively expressed during the differentiation of liver, adipose tissue, blood cells and the endocrine pancreas. C/EBP β is a member of the C/EBP transcription factor family. The C/EBP β gene encodes several isoforms containing truncated transcription activation domains due to the alternative translational initiation at multipe AUG start sites. C/EBP β is also known as interleukin-6-dependent DNA-binding protein (IL-6DBP), liver activator protein (LAP) or liver-enriched transcriptional activator protein transcription factor-5 (TCF-5). C/EBP β contributes to the regulation of the acute phase response in hepatocytes. Stat3 has an important function in IL-6-mediated transcription of the C/EBP β gene that has direct implication for acute phase response in liver cells. The C/EBP β form requires phosphorylation for its DNA binding ability, and increased binding of C/EBP β isoforms during acute-phase reaction occurs through upregulation and structural modification of C/EBP β.

## REFERENCES


1. Maytin, E.V., et al. 1998. Transcription factors C/EBP α, C/EBP β and CHOP (Gadd153) expressed during the differentiation program of keratinocytes *in vitro* and *in vivo*. J. Invest. Dermatol. 110: 238-246.
2. Grigorov, I., et al. 1998. Participation of two isoforms of C/EBPβ transcription factor in the acute-phase regulation of the rat haptoglobin gene. Cell Biol. Int. 22: 685-693.


## CHROMOSOMAL LOCATION

Genetic locus: Cebpb (mouse) mapping to 2 H3.

## PRODUCT

C/EBP β 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 C/EBP β shRNA Plasmid (m): sc-29862-SH and C/EBP β shRNA (m) Lentiviral Particles: sc-29862-V as alternate gene silencing products.

For independent verification of C/EBP β (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-29862A, sc-29862B and sc-29862C.

## 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 β siRNA (m) is recommended for the inhibition of C/EBP β 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.

## GENE EXPRESSION MONITORING

C/EBP β (H-7): sc-7962 is recommended as a control antibody for monitoring of C/EBP β 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 C/EBP β gene expression knockdown using RT-PCR Primer: C/EBP β (m)-PR: sc-29862-PR (20 µl, 559 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Chandrasekar, B., et al. 2008. Interleukin-18 suppresses adiponectin expression in 3T3-L1 adipocytes via a novel signal transduction pathway involving ERK1/2-dependent NFATc4 phosphorylation. J. Biol. Chem. 283: 4200-4209.
2. Dschietzig, T., et al. 2012. Relaxin improves TNF-α-induced endothelial dysfunction: the role of glucocorticoid receptor and phosphatidylinositol 3-kinase signalling. Cardiovasc. Res. 95: 97-107.
3. Larabee, J.L., et al. 2013. Increased cAMP in monocytes augments Notch signaling mechanisms by elevating RBP-J and transducin-like enhancer of Split (TLE). J. Biol. Chem. 288: 21526-21536.
4. Untereiner, A.A., et al. 2016. Decreased gluconeogenesis in the absence of cystathionine γ-lyase and the underlying mechanisms. Antioxid. Redox Signal. 24: 129-140.
5. Li, Z., et al. 2017. The transcription factor C/EBP β in the dorsal root ganglion contributes to peripheral nerve trauma-induced nociceptive hypersensitivity. Sci. Signal. 10: eaam5345.
6. Wang, W., et al. 2018. C/EBP β LIP and c-Jun synergize to regulate expression of the murine progesterone receptor. Mol. Cell. Endocrinol. 477: 57-69.
7. Yan, C., et al. 2019. Involvement of multiple transcription factors in regulation of IL-β-induced MCP-1 expression in alveolar type II epithelial cells. Mol. Immunol. 111: 95-105.


## RESEARCH USE

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