SANTA CRUZ BIOTECHNOLOGY, INC.

C/EBP ε (C-22): sc-158

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transcription factor C/EBP α (CCAAT-enhancer binding protein) is a heat-stable, sequence-specific DNA-binding protein first purified from rat liver nuclei that binds avidly to several different *cis*-regulatory DNA sequences commonly associated with viral and cellular genes transcribed by RNA polymerase II. C/EBP α regulates gene expression in a variety of tissues including liver, adipose, lung and intestine. C/EBP α uses a bipartite structural motif to bind DNA. Two protein chains dimerize through a set of amphipathic α helices termed the leucine zipper. Highly basic polypeptide regions emerge from the zipper to form a linked set of DNA contact surfaces. C/EBP α appears to function exclusively in terminally differentiated, growth-arrested cells. Additional family members include C/EBP β, C/EBP γ, C/EBP δ and C/EBP ε, all of which exhibit similar DNA-binding specificities and affinities to C/EBP α. Furthermore, C/EBP β and C/EBP δ readily form heterodimers both with each other as well as with C/EBP α.

CHROMOSOMAL LOCATION

Genetic locus: CEBPE (human) mapping to 14q11.2; Cebpe (mouse) mapping to 14 C3.

SOURCE

C/EBP ε (C-22) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of C/EBP ε of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-158 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-158 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C/EBP ε (C-22) is recommended for detection of C/EBP ε of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

C/EBP ε (C-22) is also recommended for detection of C/EBP ε in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for C/EBP ε siRNA (h): sc-37724, C/EBP ε siRNA (m): sc-37725, C/EBP ε shRNA Plasmid (h): sc-37724-SH, C/EBP ε shRNA Plasmid (m): sc-37725-SH, C/EBP ε shRNA (h) Lentiviral Particles: sc-37724-V and C/EBP ε shRNA (m) Lentiviral Particles: sc-37725-V.

C/EBP ε (C-22) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

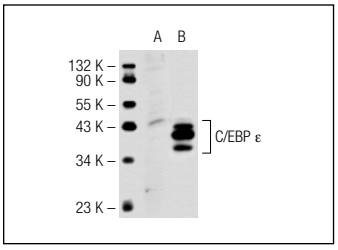
Molecular Weight of C/EBP ε isoforms: 32/30/27/14 kDa.

Positive Controls: C/EBP ε (h2): 293T Lysate: sc-176942.

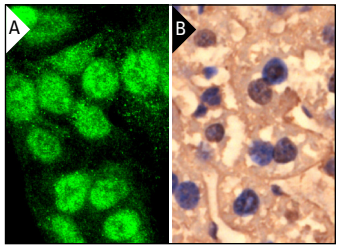
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



C/EBP ε (C-22): sc-158. Western blot analysis of C/EBP ε expression in non-transfected: sc-117752 (**A**) and human C/EBP ε transfected: sc-176942 (**B**) 293T whole cell lysates.



C/EBP ε (C-22): sc-158. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing nuclear localization in selected cells (**B**).

SELECT PRODUCT CITATIONS

1. Martinez-Balbas, M.A., et al. 1995. Displacement of sequence-specific transcription factors from mitotic chromatin. Cell 83: 29-38.
2. Thiaville, M.M., et al. 2008. Deprivation of protein or amino acid induces C/EBP β synthesis and binding to amino acid response elements, but its action is not an absolute requirement for enhanced transcription. Biochem. J. 410: 473-484.
3. Staiger, J., et al. 2009. C/EBPβ regulates body composition, energy balance-related hormones and tumor growth. Carcinogenesis 30: 832-840.
4. Xie, S., et al. 2010. IL-17 activates the canonical NFκB signaling pathway in autoimmune B cells of BXD2 mice to upregulate the expression of regulators of G protein signaling 16. J. Immunol. 184: 2289-2296.
5. Eyholzer, M., et al. 2010. Complexity of miR-223 regulation by CEBPA in human AML. Leuk. Res. 34: 672-676.
6. Fang, Y., et al. 2011. Inhibition of all-*trans*-retinoic acid-induced proteasome activation potentiates the differentiating effect of retinoid in acute myeloid leukemia cells. Mol. Carcinog. 50: 24-35.
7. Ying, M., et al. 2013. Bortezomib sensitizes human acute myeloid leukemia cells to all-*trans*-retinoic acid-induced differentiation by modifying the RARα/STAT1 axis. Mol. Cancer Ther. 12: 195-206.

RESEARCH USE

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