SANTA CRUZ BIOTECHNOLOGY, INC.

C/EBP ε (C-10): sc-515192

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.

REFERENCES

1. Johnson, P.F., et al. 1987. Identification of a rat liver nuclear protein that binds to the enhancer core element of three animal viruses. Genes Dev. 1: 133-146.
2. Landschulz, W.H., et al. 1988. Isolation of a recombinant copy of the gene encoding C/EBP. Genes Dev. 2: 786-800.
3. Birkenmeier, E.H., et al. 1989. Tissue-specific expression, developmental regulation, and genetic mapping of the gene encoding CCAAT/enhancer binding protein. Genes Dev. 3: 1146-1156.
4. Umek, R.M., et al. 1991. CCAAT-enhancer binding protein: a component of a differentiation switch. Science 251: 288-292.
5. Cao, Z., et al. 1991. Regulated expression of three C/EBP isoforms during adipose conversion of 3T3-L1 cells. Genes Dev. 5: 1538-1552.

CHROMOSOMAL LOCATION

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

SOURCE

C/EBP ε (C-10) is a mouse monoclonal antibody raised against amino acids 1-75 of C/EBP ε of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-515192 X, 200 µg/0.1 ml.

C/EBP ε (C-10) is available conjugated to agarose (sc-515192 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515192 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515192 PE), fluorescein (sc-515192 FITC), Alexa Fluor® 488 (sc-515192 AF488), Alexa Fluor® 546 (sc-515192 AF546), Alexa Fluor® 594 (sc-515192 AF594) or Alexa Fluor® 647 (sc-515192 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515192 AF680) or Alexa Fluor® 790 (sc-515192 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

C/EBP ε (C-10) is recommended for detection of C/EBP ε of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

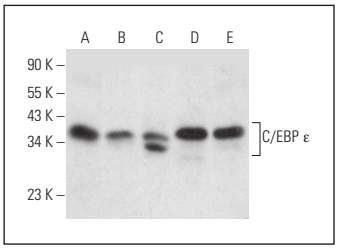
Suitable for use as control antibody for C/EBP ε siRNA (h): sc-37724, C/EBP ε siRNA (m): sc-37725, C/EBP ε shRNA Plasmid (h): sc-37724-SH, C/EBP ε shRNA Plasmid (m): sc-37725-SH, C/EBP ε shRNA (h) Lentiviral Particles: sc-37724-V and C/EBP ε shRNA (m) Lentiviral Particles: sc-37725-V.

C/EBP ε (C-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

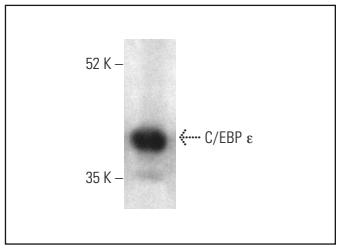
Molecular Weight of C/EBP ε isoforms: 32/30/27/14 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Neuro-2A whole cell lysate: sc-364185 or PC-12 cell lysate: sc-2250.

DATA



C/EBP ε (C-10): sc-515192. Western blot analysis of C/EBP ε expression in K-562 (**A**), Sol8 (**B**), Neuro-2A (**C**), RIN-m5F (**D**) and PC-12 (**E**) whole cell lysates.



C/EBP ε (C-10) HRP: sc-515192 HRP. Direct western blot analysis of C/EBP ε expression in PC-12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Serwas, N.K., et al. 2018. CEBPE-mutant specific granule deficiency correlates with aberrant granule organization and substantial proteome alterations in neutrophils. Front. Immunol. 9: 588.
2. Albanesi, J., et al. 2020. Transcriptional and metabolic dissection of ATRA-induced granulocytic differentiation in NB4 acute promyelocytic leukemia cells. Cells 9: 2423.

STORAGE

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

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.