SANTA CRUZ BIOTECHNOLOGY, INC.

C/EBP α (D-5): sc-365318

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 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 is a basic region/leucine zipper transcription factor selectively expressed during the differentiation of liver, adipose tissue, blood cells and the endocrine pancreas. C/EBP α uses a bipartite structural motif to bind DNA and appears to function exclusively in terminally differentiated, growth-arrested cells. In the liver, C/EBP α is a transactivator of several genes, which are regulated by growth hormone. Growth hormone enhances not only the levels of C/EBP α mRNA and protein, but also the DNA-binding activity of C/EBP α. C/EBP α functions as an important transcription factor that regulates different genes, including prolactin gene expression.

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.

CHROMOSOMAL LOCATION

Genetic locus: CEBPA (human) mapping to 19q13.11; Cebpa (mouse) mapping to 7 B1.

SOURCE

C/EBP α (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-25 at the N-terminus of C/EBP α of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-365318 X, 200 µg/0.1 ml.

C/EBP α (D-5) is available conjugated to HRP (sc-365318 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either fluorescein (sc-365318 FITC) or Alexa Fluor® 488 (sc-365318 AF488), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-365318 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

C/EBP α (D-5) is recommended for detection of C/EBP α p42 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).

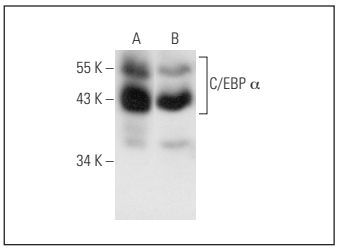
Suitable for use as control antibody for C/EBP α siRNA (h): sc-37047, C/EBP α siRNA (m): sc-37048, C/EBP α shRNA Plasmid (h): sc-37047-SH, C/EBP α shRNA Plasmid (m): sc-37048-SH, C/EBP α shRNA (h) Lentiviral Particles: sc-37047-V and C/EBP α shRNA (m) Lentiviral Particles: sc-37048-V.

C/EBP α (D-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of C/EBP α isoforms: 42/30 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, HeLa whole cell lysate: sc-2200 or rat liver extract: sc-2395.

DATA



C/EBP α (D-5): sc-365318. Western blot analysis of C/EBP α expression in Caki-1 (**A**) and HeLa (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Vila-Bedmar, R., et al. 2010. Adenosine 5'-monophosphate-activated protein kinase-mammalian target of rapamycin cross talk regulates brown adipocyte differentiation. Endocrinology 151: 980-992.
2. Liu, X., et al. 2018. Hmox1 promotes osteogenic differentiation at the expense of reduced adipogenic differentiation induced by BMP9 in C3H10T1/2 cells. J. Cell. Biochem. 119: 5503-5516.
3. Kamada, R., et al. 2019. Inhibition of lipid droplet formation by Ser/Thr protein phosphatase PPM1D inhibitor, SL-176. PLoS ONE 14: e0212682.
4. Yuan, H., et al. 2020. Hypomethylation of nerve growth factor (NGF) promotes binding of C/EBPα and contributes to inflammatory hyperalgesia in rats. J. Neuroinflammation 17: 34.
5. Molinari, F., et al. 2021. SIRT5 inhibition induces brown fat-like phenotype in 3T3-L1 preadipocytes. Cells 10: 1126.

RESEARCH USE

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