

C/EBP α (K-19): sc-21820

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.
4. Cao, Z., et al. 1991. Regulated expression of three C/EBP isoforms during adipose conversion of 3T3-L1 cells. *Genes Dev.* 5: 1538-1552.
5. Rana, B., et al. 1995. The DNA binding activity of C/EBP transcription factor is regulated in the G1 phase of the hepatocyte cell cycle. *J. Biol. Chem.* 270: 18123-18132.
6. 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.
7. Yiangou, M., et al. 1998. Induction of a subgroup of acute phase protein genes in mouse liver by hyperthermia. *Biochim. Biophys. Acta* 1396: 191-206.
8. Jacob, K.K., et al. 1999. CCAAT/enhancer-binding protein α is a physiological regulator of prolactin gene expression. *Endocrinology* 140: 4542-4550.
9. Strand, P., et al. 2000. Growth hormone induces CCAAT/enhancer binding protein α (C/EBP α) in cultured rat hepatocytes. *J. Hepatol.* 32: 618-626.

CHROMOSOMAL LOCATION

Genetic locus: CEBPA (human) mapping to 19q13.11.

SOURCE

C/EBP α (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of C/EBP α of human origin.

PRODUCT

Each vial contains 200 μ g 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-21820 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-21820 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C/EBP α (K-19) is recommended for detection of C/EBP α of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 shRNA Plasmid (h): sc-37047-SH and C/EBP α shRNA (h) Lentiviral Particles: sc-37047-V.

C/EBP α (K-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Dong, L.Y., et al. 2010. Epidermal growth factor down-regulates the expression of human hepatic stimulator substance via CCAAT/enhancer-binding protein β in HepG2 cells. *Biochem. J.* 431: 277-287.

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.



Try **C/EBP α (D-5): sc-365318** or **C/EBP α (G-10): sc-166258**, our highly recommended monoclonal alternatives to C/EBP α (K-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **C/EBP α (D-5): sc-365318**.