

C/EBP γ (E-19): sc-7659

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. 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. Williams, S.C., et al. 1991. A family of C/EBP-related proteins capable of forming covalently linked leucine zipper dimers *in vitro*. *Genes Dev.* 5: 1553-1567.
6. Umek, R.M., et al. 1991. CCAAT-enhancer binding protein: a component of a differentiation switch. *Science* 251: 288-292.

CHROMOSOMAL LOCATION

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

SOURCE

C/EBP γ (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within the Leucine-zipper domain of C/EBP γ 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.

Blocking peptide available for competition studies, sc-7659 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7659 X, 200 μ g/0.1 ml.

APPLICATIONS

C/EBP γ (E-19) is recommended for detection of C/EBP γ of mouse, rat and 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).

C/EBP γ (E-19) is also recommended for detection of C/EBP γ in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for C/EBP γ siRNA (h): sc-37720, C/EBP γ siRNA (m): sc-37721, C/EBP γ shRNA Plasmid (h): sc-37720-SH, C/EBP γ shRNA Plasmid (m): sc-37721-SH, C/EBP γ shRNA (h) Lentiviral Particles: sc-37720-V and C/EBP γ shRNA (m) Lentiviral Particles: sc-37721-V.

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

Molecular Weight (predicted) of C/EBP γ : 16 kDa.

Molecular Weight (observed) of C/EBP γ : 19 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

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. Mao, C.S., et al. 2001. Differential regulation of mouse germline Ig γ 1 and ϵ promoters by IL-4 and CD40. *J. Immunol.* 167: 1522-1534.
2. Nilsson, T., et al. 2001. Promoter-proximal regulatory elements involved in oriP-EBNA1-independent and -dependent activation of the Epstein-Barr virus C promoter in B-lymphoid cell lines. *J. Virol.* 75: 5796-5811.
3. Soga, Y., et al. 2003. CCAAT/enhancer binding proteins are expressed in the gerbil hippocampus after transient forebrain ischemia. *Neurosci. Lett.* 337: 106-110.
4. Hardy, K., et al. 2005. Transcriptional networks and cellular senescence in human mammary fibroblasts. *Mol. Biol. Cell* 16: 943-953.

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.