

p-C/EBP β (Ser 105)-R: sc-16994-R

BACKGROUND

The transcription factor C/EBP α (CCAAT-enhancer binding protein) is a sequence-specific DNA-binding protein that binds avidly to several different CIS-regulatory DNA sequences, which are transcribed by RNA polymerase II. C/EBP α regulates gene expression in a variety of tissues including liver, adipose, lung and intestine. Additional family members include C/EBP ϵ , C/EBP β , C/EBP δ and C/EBP γ , all of which exhibit similar DNA-binding specificities and affinities to C/EBP α . C/EBP β and C/EBP δ readily form heterodimers with each other as well as with C/EBP α through a leucine zipper, which results in the formation of a linked set of DNA contact surfaces. TGF α induces activation of the p90 ribosomal S kinase, resulting in the phosphorylation of rat C/EBP β on Ser 105 and mouse C/EBP β on Thr 217. Therefore, a site-specific phosphorylation of the C/EBP β transcription factor is critical for hepatocyte proliferation induced by TGF α and other stimuli that activate RSK.

REFERENCES

1. Landschulz, W.H., et al. 1988. Isolation of a recombinant copy of the gene encoding C/EBP. *Genes Dev.* 2: 786-800.
2. 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.
3. 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.
4. Umek, R.M., et al. 1991. CCAAT-enhancer binding protein: a component of a differentiation switch. *Science* 251: 288-292.
5. Davydov, I.V., et al. 1995. Cloning of the cDNA encoding human C/EBP α , a protein binding to the PRE-I enhancer element of the human interleukin-4 promoter. *Gene* 161: 271-275.
6. Buck, M., et al. 1999. Phosphorylation of rat Serine 105 or mouse Threonine 217 in C/EBP β is required for hepatocyte proliferation induced by TGF α . *Mol. Cell* 4: 1087-1092.

CHROMOSOMAL LOCATION

Genetic locus: Cebpb (rat) mapping to 3q42.

SOURCE

p-C/EBP β (Ser 105)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 105 of C/EBP β of rat origin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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-16994 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

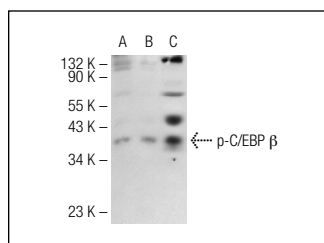
p-C/EBP β (Ser 105)-R is recommended for detection of Ser 105 phosphorylated C/EBP β of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of p-C/EBP β : 41 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-C/EBP β (Ser 105)-R: sc-16994-R. Western blot analysis of C/EBP β phosphorylation in non-transfected 293T: sc-117752 (A), human C/EBP β transfected 293T: sc-176940 (B) and Jurkat (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lee, S.J., et al. 2006. Role of p90 ribosomal S6-kinase-1 in oltipraz-induced specific phosphorylation of CCAAT/enhancer binding protein- β for GSTA2 gene transactivation. *Mol. Pharmacol.* 69: 385-396.

RESEARCH USE

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