SANTA CRUZ BIOTECHNOLOGY, INC.

C/EBP γ (S2): sc-517003

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.

CHROMOSOMAL LOCATION

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

SOURCE

C/EBP γ (S2) is a mouse monoclonal antibody raised against amino acids 1-150 representing full length C/EBP γ of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

C/EBP γ (S2) is recommended for detection of C/EBP γ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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

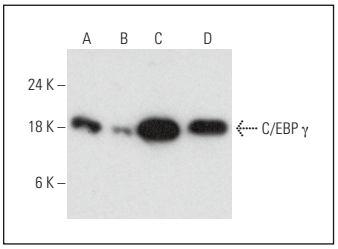
Molecular Weight (observed) of C/EBP γ: 19 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa nuclear extract: sc-2120 or human liver extract: sc-363766.

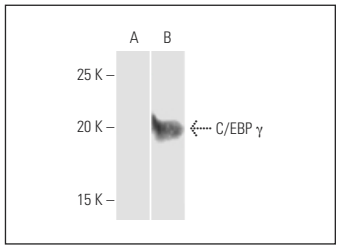
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



C/EBP γ (S2): sc-517003. Western blot analysis of C/EBP γ expression in Jurkat (**A**) and HeLa (**B**) nuclear extracts, PANC-1 whole cell lysate (**C**) and human liver tissue extract (**D**).



C/EBP γ (S2): sc-517003. Western blot analysis of C/EBP γ expression in non-transfected (**A**) and C/EBP γ transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chang, J.W., et al. 2018. An integrative model for alternative polyadenylation, IntMAP, delineates mTOR-modulated endoplasmic reticulum stress response. Nucleic Acids Res. 46: 5996-6008.
2. Jiang, Y., et al. 2021. CEBPG promotes acute myeloid leukemia progression by enhancing EIF4EBP1. Cancer Cell Int. 21: 598.
3. Kitano, H., et al. 2022. HepG2-based designer cells with heat-inducible enhanced liver functions. Cells 11: 1194.
4. Kim, D., et al. 2022. Systemic approaches using single cell transcriptome reveal that C/EBP γ regulates autophagy under amino acid starved condition. Nucleic Acids Res. 50: 7298-7309.
5. Berastegui, N., et al. 2022. The transcription factor DDIT3 is a potential driver of dyserythropoiesis in myelodysplastic syndromes. Nat. Commun. 13: 7619.

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.