

# C/EBP $\beta$ (H-7): sc-7962

## BACKGROUND

CCAAT-enhancer binding proteins (C/EBP) are basic region/leucine zipper (bZIP) transcription factors selectively expressed during the differentiation of liver, adipose tissue, blood cells and the endocrine pancreas. C/EBP  $\beta$  is a member of the C/EBP transcription factor family. The C/EBP  $\beta$  gene encodes several isoforms, containing truncated transcription activation domains due to the alternative translational initiation at multiple AUG start sites. C/EBP  $\beta$  is also known as interleukin-6-dependent DNA-binding protein (IL6DBP), liver activator protein (LAP) or liver-enriched transcriptional activator protein transcription factor 5 (TCF5). C/EBP  $\beta$  contributes to the regulation of the acute phase response in hepatocytes. Stat3 has an important function in IL-6-mediated transcription of the C/EBP  $\beta$  gene that has direct implication for acute phase response in liver cells. The C/EBP  $\beta$  form requires phosphorylation for its DNA binding ability, and increased binding of C/EBP  $\beta$  isoforms during acute-phase reaction occurs through its upregulation and structural modification.

## REFERENCES

1. Grigorov, I., et al. 1998. Participation of two isoforms of C/EBP $\beta$  transcription factor in the acute-phase regulation of the rat haptoglobin gene. *Cell Biol. Int.* 22: 685-693.
2. Hsieh, C.C., et al. 1998. Effects of age on the posttranscriptional regulation of CCAAT/enhancer binding protein  $\alpha$  and CCAAT/enhancer binding protein  $\beta$  isoform synthesis in control and LPS-treated livers. *Mol. Biol. Cell* 9: 1479-1494.

## CHROMOSOMAL LOCATION

Genetic locus: CEBPB (human) mapping to 20q13.13; Cebpb (mouse) mapping to 2 H3.

## SOURCE

C/EBP  $\beta$  (H-7) is a mouse monoclonal antibody raised against amino acids 199-345 mapping at the C-terminus of C/EBP  $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> 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-7962 X, 200  $\mu$ g/0.1 ml.

C/EBP  $\beta$  (H-7) is available conjugated to agarose (sc-7962 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7962 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7962 PE), fluorescein (sc-7962 FITC), Alexa Fluor<sup>®</sup> 488 (sc-7962 AF488), Alexa Fluor<sup>®</sup> 546 (sc-7962 AF546), Alexa Fluor<sup>®</sup> 594 (sc-7962 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-7962 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-7962 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-7962 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## 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  $\beta$  (H-7) is recommended for detection of C/EBP  $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

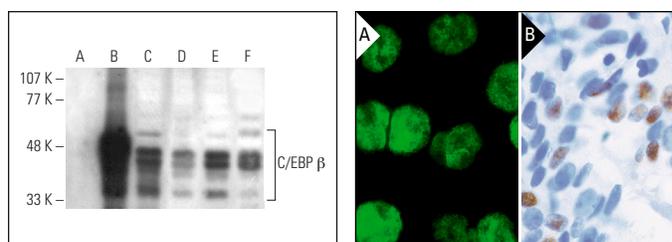
Suitable for use as control antibody for C/EBP  $\beta$  siRNA (h): sc-29229, C/EBP  $\beta$  siRNA (m): sc-29862, C/EBP  $\beta$  siRNA (r): sc-270405, C/EBP  $\beta$  shRNA Plasmid (h): sc-29229-SH, C/EBP  $\beta$  shRNA Plasmid (m): sc-29862-SH, C/EBP  $\beta$  shRNA Plasmid (r): sc-270405-SH, C/EBP  $\beta$  shRNA (h) Lentiviral Particles: sc-29229-V, C/EBP  $\beta$  shRNA (m) Lentiviral Particles: sc-29862-V and C/EBP  $\beta$  shRNA (r) Lentiviral Particles: sc-270405-V.

C/EBP  $\beta$  (H-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of C/EBP  $\beta$ : 45 kDa.

Positive Controls: C/EBP  $\beta$  (h): 293T Lysate: sc-176940, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

## DATA



C/EBP  $\beta$  (H-7) HRP: sc-7962 HRP. Direct western blot analysis of C/EBP  $\beta$  expression in non-transfected 293T: sc-117752 (A), human C/EBP  $\beta$  transfected 293T: sc-176940 (B), HeLa (C), MCF7 (D) and Hep G2 (E) whole cell lysates and HeLa nuclear extract (F).

C/EBP  $\beta$  (H-7): sc-7962. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining of selected cells (B).

## SELECT PRODUCT CITATIONS

1. Shen, C.N., et al. 2000. Molecular basis of transdifferentiation of pancreas to liver. *Nat. Cell Biol.* 2: 879-887.
2. Kamada, R., et al. 2019. Inhibition of lipid droplet formation by Ser/Thr protein phosphatase PPM1D inhibitor, SL-176. *PLoS ONE* 14: e0212682.
3. Huang, G., et al. 2020. RNA-binding protein CUGBP1 controls the differential INSR splicing in molecular subtypes of breast cancer cells and affects cell aggressiveness. *Carcinogenesis* 41: 1294-1305.
4. Gruol, D.L., et al. 2021. Alcohol alters IL-6 signal transduction in the CNS of transgenic mice with increased astrocyte expression of IL-6. *Cell. Mol. Neurobiol.* 41: 733-750.

## RESEARCH USE

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