

E4BP4 (A-9): sc-74415

BACKGROUND

E4BP4, also known as NFIL3, functions as a transcriptional repressor and is a member of the basic leucine zipper (bZIP) transcription factor family. E4BP4 binds with high specificity to the E4 ATF, which is a DNA sequence traditionally targeted by the ATF/CREB family of transcription factors. A 65 amino acid segment located in the carboxy-terminus of E4BP4 interacts specifically with the TBP binding protein Dr1. In the suprachiasmatic nucleus, circadian center and liver, E4BP4 competes with PAR proteins for DNA binding via a reciprocating mechanism. The phase expression of E4BP4 correlates with the circadian cycle and represses transcription of genes otherwise activated by PAR transcription regulators. E4BP4 also plays an important role in an IL-3-mediated signaling pathway that is responsible for the survival of B cell progenitors. The gene encoding human E4BP4 maps to chromosome 9q22.31.

REFERENCES

1. Cowell, I.G., et al. 1992. Transcriptional repression by a novel member of the bZIP family of transcription factors. *Mol. Cell. Biol.* 12: 3070-3077.
2. Cowell, I.G. and Hurst, H.C. 1994. Transcriptional repression by the human bZIP factor E4BP4: definition of a minimal repression domain. *Nucleic Acids Res.* 22: 59-65.
3. Cowell, I.G. and Hurst, H.C. 1996. Protein-protein interaction between the transcriptional repressor E4BP4 and the TBP-binding protein Dr1. *Nucleic Acids Res.* 24: 3607-3613.

CHROMOSOMAL LOCATION

Genetic locus: NFIL3 (human) mapping to 9q22.31; Nfil3 (mouse) mapping to 13 B1.

SOURCE

E4BP4 (A-9) is a mouse monoclonal antibody raised against amino acids 163-462 mapping at the C-terminus of E4BP4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-74415 X, 200 µg/0.1 ml.

E4BP4 (A-9) is available conjugated to agarose (sc-74415 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74415 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74415 PE), fluorescein (sc-74415 FITC), Alexa Fluor® 488 (sc-74415 AF488), Alexa Fluor® 546 (sc-74415 AF546), Alexa Fluor® 594 (sc-74415 AF594) or Alexa Fluor® 647 (sc-74415 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74415 AF680) or Alexa Fluor® 790 (sc-74415 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

E4BP4 (A-9) is recommended for detection of E4BP4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

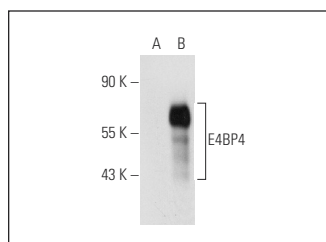
Suitable for use as control antibody for E4BP4 siRNA (h): sc-37821, E4BP4 siRNA (m): sc-37822, E4BP4 shRNA Plasmid (h): sc-37821-SH, E4BP4 shRNA Plasmid (m): sc-37822-SH, E4BP4 shRNA (h) Lentiviral Particles: sc-37821-V and E4BP4 shRNA (m) Lentiviral Particles: sc-37822-V.

E4BP4 (A-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

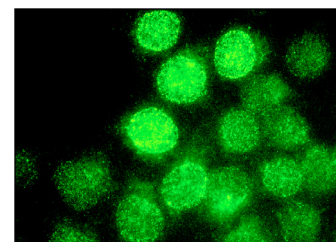
Molecular Weight of E4BP4: 60 kDa.

Positive Controls: E4BP4 (h): 293 Lysate: sc-110510, Ramos cell lysate: sc-2216 or HeLa whole cell lysate: sc-2200.

DATA



E4BP4 (A-9): sc-74415. Western blot analysis of E4BP4 expression in non-transfected: sc-110760 (A) and human E4BP4 transfected: sc-110510 (B) 293 whole cell lysates.



E4BP4 (A-9): sc-74415. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Tong, X., et al. 2013. Recruitment of histone methyltransferase G9a mediates transcriptional repression of Fgf21 gene by E4BP4 protein. *J. Biol. Chem.* 288: 5417-5425.
2. Yang, Y., et al. 2017. E4BP4 mediates glucocorticoid-regulated adipogenesis through COX2. *Mol. Cell. Endocrinol.* 450: 43-53.
3. Wang, Z., et al. 2020. E4BP4-mediated inhibition of T follicular helper cell differentiation is compromised in autoimmune diseases. *J. Clin. Invest.* 130: 3717-3733.
4. Claycombe-Larson, K.J., et al. 2022. Postnatal exercise protects offspring from high-fat diet-induced reductions in subcutaneous adipocyte beiging in C57Bl6/J mice. *J. Nutr. Biochem.* 99: 108853.
5. Ding, M., et al. 2022. Acute hypoxia induced dysregulation of clock-controlled ovary functions. *Front. Physiol.* 13: 1024038.

RESEARCH USE

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