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CEBPA Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1703a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P49715
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5B7
Isotype	IgG1
Calculated MW	37561
Description	The protein encoded by this intronless gene is a bZIP transcription factor which can bind as a homodimer to certain promoters and enhancers. It can also form heterodimers with the related proteins CEBP-beta and CEBP-gamma. The encoded protein has been shown to bind to the promoter and modulate the expression of the gene encoding leptin, a protein that plays an important role in body weight homeostasis. Also, the encoded protein can interact with CDK2 and CDK4, thereby inhibiting these kinases and causing growth arrest in cultured cells.
Immunogen	Synthesized peptide of human CEBPA (AA: C-RKSRDKAKRNVETKV).
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	1050
Other Names	CCAAT/enhancer-binding protein alpha, C/EBP alpha, CEBPA
Dilution	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CEBPA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CEBPA (HGNC:1833)
Function	Transcription factor that coordinates proliferation arrest and the differentiation of myeloid progenitors, adipocytes, hepatocytes, and cells of the lung and the placenta. Binds directly to the consensus DNA sequence 5'-T[TG]NNGNAA[TG]-3' acting as an activator on distinct target genes (PubMed:11242107). During early embryogenesis, plays essential and redundant functions with CEBPB. Essential for the transition from common myeloid progenitors (CMP) to granulocyte/monocyte progenitors (GMP). Critical for the proper development of the liver and the lung (By similarity). Necessary for terminal adipocyte differentiation, is required for postnatal maintenance of systemic energy homeostasis and lipid storage (By similarity). To regulate these different processes at the proper moment and tissue, interplays with other transcription factors and modulators. Down-regulates the expression of genes that maintain cells in an undifferentiated and proliferative state through E2F1 repression, which is critical for its ability to induce adipocyte and granulocyte terminal differentiation. Reciprocally E2F1 blocks adipocyte differentiation by binding to specific promoters and repressing CEBPA binding to its target gene promoters. Proliferation arrest also depends on a functional binding to SWI/SNF complex (PubMed:14660596). In liver, regulates gluconeogenesis and lipogenesis through different mechanisms. To regulate gluconeogenesis, functionally cooperates with FOXO1 binding to IRE-controlled promoters and regulating the expression of target genes such as PCK1 or G6PC1. To modulate lipogenesis, interacts and transcriptionally synergizes with SREBF1 in promoter activation of specific lipogenic target genes such as ACAS2. In adipose tissue, seems to act as FOXO1 coactivator accessing to ADIPOQ promoter through FOXO1 binding sites (By similarity).
Cellular Location	Nucleus.

References

Br J Cancer. 2010 Jul 13;103(2):275-84. Cell Res. 2010 Apr;20(4):470-9.

Images

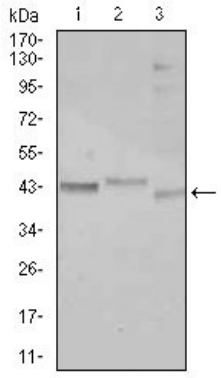
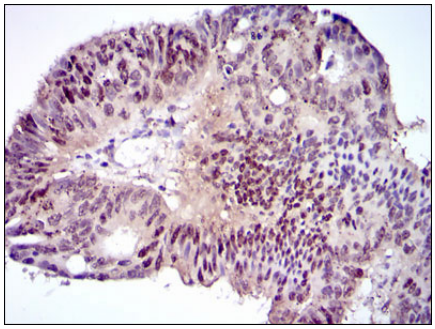


Figure 1: Western blot analysis using CEBPA mouse mAb against Jurkat (1), k562 (2), and HepG2 (3) cell lysate.

Figure 2: Immunohistochemical analysis of paraffin-embedded rectum tissues using CEBPA mouse mAb with DAB staining.



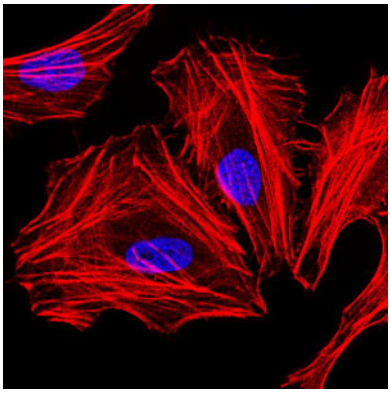


Figure 3: Immunofluorescence analysis of HeLa cells. Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

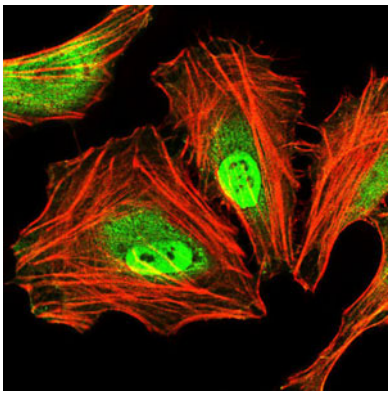


Figure 4: Immunofluorescence analysis of HeLa cells using CEBPA mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

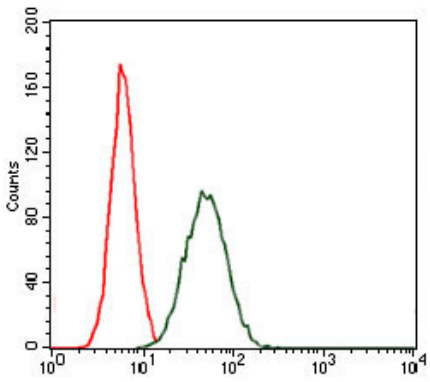


Figure 5: Flow cytometric analysis of MCF-7 cells using CEBPA mouse mAb (green) and negative control (red).

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