

Product Information

Monoclonal Anti-phospho-C/EBP α (pThr^{222/226}) Clone 9G11

produced in mouse, purified immunoglobulin

Catalog Number **C8119**

Product Description

Monoclonal Anti-phospho-C/EBP α (pThr^{222/226}) (mouse IgG1 isotype) is derived from the hybridoma 9G11 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a double phosphorylated peptide corresponding to amino acid 221-236 (pThr^{222/226}) of human C/EBP α (Gene ID: 1050).¹ The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-phospho-C/EBP α (pThr^{222/226}) recognizes human and dog phosphorylated C/EBP α . The antibody may be used in various immunochemical techniques including ELISA and immunoblotting (predicted ~ 42 kDa; apparent ~50 kDa).¹

The CCATT/enhancer binding protein (C/EBP) family is a group of C-terminus basic region leucine zipper (bzip) transcription factors that all bind to a similar palindromic consensus motif as homo- or heterodimers. The N-terminal portion of each protein contains effector domains that mediate transcriptional activation, repression and autoregulatory function. These factors control the differentiation of a range of cell types, and have roles in regulating cellular proliferation through interaction with cell cycle proteins.^{2,3} C/EBP α is the founding member of the C/EBP family and is expressed predominantly in post-mitotic cells. It regulates the balance between cell proliferation and differentiation in haematopoietic and non-haematopoietic tissues including lung, liver, mammary gland and skin. C/EBP α directly activates the transcription of many metabolically associated genes.⁴ In addition to its role as a classical transcription factor, C/EBP α also has the capacity to slow or arrest mitotic growth through its 15-amino proline-histidine-rich region (PHR), which interacts with CDK2 and CDK4, thereby inhibiting their activities.^{2,6} Given the pivotal role of C/EBP α in cell differentiation, it is not surprising that several human cell types frequently display reduction in its expression levels. Genetic lesions affecting C/EBP α have been identified to be important only for the development of myeloid leukemia.^{4,5,7}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2-4 μ g/mL is recommended using THP-1 total cell extract.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Pedersen, T.Å., et al., *EMBO J.*, **26**, 1081-1093 (2007).
2. Johnson, P.S., *J. Cell Sci.*, **118**, 2545-2555 (2005).
3. Nerlov, C., *Trends Cell Biol.*, **17**, 318-324 (2007).
4. Fuchs, O., et al., *Folia Biol. (Praha)*, **53**, 97-108 (2007).
5. Schuster, M.B., and Porse, B.T., *Biochem. Biophys. Acta*, **1766**, 88-103 (2006).
6. Porse, B.T., et al., *Mol. Cell Biol.*, **26**, 1028-1037 (2006).
7. Muller, B.U., and Pabst, T., *Curr. Opin. Hematol.*, **13**, 7-14 (2006).

GG,KAA,PHC 10/08-1