

MARK2 (EMK) Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP8003a**Specification**

MARK2 (EMK) Antibody (C-term) Blocking peptide - Product Information

Primary Accession [O7KZI7](#)
Other Accession [O15524](#)

MARK2 (EMK) Antibody (C-term) Blocking peptide - Additional Information

Gene ID 2011

Other Names

Serine/threonine-protein kinase MARK2, ELKL motif kinase 1, EMK-1, MAP/microtubule affinity-regulating kinase 2, PAR1 homolog, PAR1 homolog b, Par-1b, Par1b, MARK2 {ECO:0000312|EMBL:AAH087712}, EMK1

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP8003a](/product/products/AP8003a) was selected from the C-term region of human EMK. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MARK2 (EMK) Antibody (C-term) Blocking peptide - Protein Information

Name MARK2 {ECO:0000312|EMBL:AAH08771.2}

Synonyms EMK1

Function

Serine/threonine-protein kinase (PubMed: [23666762](http://www.uniprot.org/citations/23666762)). Involved in cell polarity and microtubule dynamics regulation. Phosphorylates CRTC2/TORC2, DCX, HDAC7, KIF13B, MAP2, MAP4 and RAB11FIP2. Phosphorylates the microtubule-associated protein MAPT/TAU (PubMed: [23666762](http://www.uniprot.org/citations/23666762)). Plays a key role in cell polarity by phosphorylating the microtubule-associated proteins MAP2, MAP4 and MAPT/TAU at KXGS motifs, causing detachment from microtubules, and their disassembly.

Regulates epithelial cell polarity by phosphorylating RAB11FIP2. Involved in the regulation of neuronal migration through its dual activities in regulating cellular polarity and microtubule dynamics, possibly by phosphorylating and regulating DCX. Regulates axogenesis by phosphorylating KIF13B, promoting interaction between KIF13B and 14-3-3 and inhibiting microtubule-dependent accumulation of KIF13B. Also required for neurite outgrowth and establishment of neuronal polarity. Regulates localization and activity of some histone deacetylases by mediating phosphorylation of HDAC7, promoting subsequent interaction between HDAC7 and 14-3-3 and export from the nucleus. Also acts as a positive regulator of the Wnt signaling pathway, probably by mediating phosphorylation of dishevelled proteins (DVL1, DVL2 and/or DVL3). Modulates the developmental decision to build a columnar versus a hepatic epithelial cell apparently by promoting a switch from a direct to a transcytotic mode of apical protein delivery. Essential for the asymmetric development of membrane domains of polarized epithelial cells.

Cellular Location

Cell membrane; Peripheral membrane protein. Cytoplasm. Lateral cell membrane. Cytoplasm, cytoskeleton. Cell projection, dendrite. Cytoplasm. Note=Phosphorylation at Thr-596 by PRKCZ/aPKC and subsequent interaction with 14-3-3 protein YWHAZ promotes relocation from the cell membrane to the cytoplasm

Tissue Location

High levels of expression in heart, brain, skeletal muscle and pancreas, lower levels observed in lung, liver and kidney

MARK2 (EMK) Antibody (C-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

MARK2 (EMK) Antibody (C-term) Blocking peptide - Images

MARK2 (EMK) Antibody (C-term) Blocking peptide - Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the γ phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains.

MARK2 (EMK) Antibody (C-term) Blocking peptide - References

Blume-Jensen P, et al. Nature 2001. 411: 355. Cantrell D, J. Cell Sci. 2001. 114: 1439. Jhiang S Oncogene 2000. 19: 5590. Manning G, et al. Science 2002. 298: 1912. Moller, D, et al. Am. J. Physiol. 1994. 266: C351-C359. Robertson, S. et al. Trends Genet. 2000. 16: 368. Robinson D, et al. Oncogene 2000. 19: 5548. Van der Ven, P, et al. Hum. Molec. Genet. 1993. 2: 1889. Vanhaesebroeck, B, et al. Biochem. J. 2000. 346: 561. Van Weering D, et al. Recent Results Cancer Res. 1998. 154: 271.