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MARK4 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7145a

Specification

MARK4 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q96L34

MARK4 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 57787

Other Names
MAP/microtubule affinity-regulating kinase 4, MAP/microtubule affinity-regulating kinase-like 1, MARK4, KIAA1860, MARKL1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7145a was selected from the N-term region of human MARK4. 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.

MARK4 Antibody (N-term) Blocking Peptide - Protein Information

Name MARK4 {ECO:0000303|PubMed:14594945, ECO:0000312|HGNC:HGNC:13538}

Function
Serine/threonine-protein kinase (PubMed:15009667, PubMed:14594945, PubMed:23666762, PubMed:23184942). Phosphorylates the microtubule-associated protein MAPT/TAU (PubMed:14594945, PubMed:23666762). Also phosphorylates the microtubule-associated proteins MAP2 and MAP4 (PubMed:14594945). Involved in regulation of the microtubule network, causing reorganization of microtubules into bundles (PubMed:14594945,

PubMed:25123532). Required for the initiation of axoneme extension during cilium assembly (PubMed:23400999). Regulates the centrosomal location of ODF2 and phosphorylates ODF2 in vitro (PubMed:23400999). Plays a role in cell cycle progression, specifically in the G1/S checkpoint (PubMed:25123532). Reduces neuronal cell survival (PubMed:15009667). Plays a role in energy homeostasis by regulating satiety and metabolic rate (By similarity). Promotes adipogenesis by activating JNK1 and inhibiting the p38MAPK pathway, and triggers apoptosis by activating the JNK1 pathway (By similarity). Phosphorylates mTORC1 complex member RPTOR and acts as a negative regulator of the mTORC1 complex, probably due to disruption of the interaction between phosphorylated RPTOR and the RRAGA/RRAGC heterodimer which is required for mTORC1 activation (PubMed:23184942). Involved in NLRP3 positioning along microtubules by mediating NLRP3 recruitment to microtubule organizing center (MTOC) upon inflammasome activation (PubMed:28656979).

Cellular Location
Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center. Cytoplasm, cytoskeleton, cilium basal body Cytoplasm, cytoskeleton, cilium axoneme Cytoplasm Cell projection, dendrite. Note=Localized at the tips of neurite-like processes in differentiated neuroblast cells. Detected in the cytoplasm and neuropil of the hippocampus

Tissue Location
Ubiquitous. Isoform 2 is brain-specific (PubMed:11326310). Expressed at highest levels in brain and testis Also expressed in heart, lung, liver, muscle, kidney and spleen (PubMed:14594945).

MARK4 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

MARK4 Antibody (N-term) Blocking Peptide - Images

MARK4 Antibody (N-term) Blocking Peptide - Background

MARK4 contains an N-terminal serine/threonine kinase domain, a central ubiquitin-associated domain, and a C-terminal KA1-associated kinase domain. RT-PCR analysis detects upregulated expression of the gene for MARK4 in nearly all clinical hepatocellular carcinoma cells. Northern blot analysis reveals ubiquitous expression of a 3.6-kb transcript, with highest expression in testis. Immunofluorescence microscopy demonstrates homogeneous cytoplasmic expression. Colony-forming assays show that MARK4 antisense reduces the growth of SNU475 cells. It has been suggested that MARK4 provides a growth advantage to cells.

MARK4 Antibody (N-term) Blocking Peptide - References

Neoplasia 3: 4-9, 2001. DNA Res. 8: 85-95, 2001. J. Neurochem. 88 (5), 1114-1126 (2004)J. Biol. Chem. 279 (7), 5915-5923 (2004)Oncogene 22 (17), 2581-2591 (2003)Cell 89 (2), 297-308 (1997)