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KD-Validated Anti-MARK2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1618

Product Information

Application	WB, FC, ICC
Primary Accession	Q7KZI7
Reactivity	Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB675
Calculated MW	87911
Gene Name	MARK2
Aliases	Microtubule Affinity Regulating Kinase 2; Par1b; MAP/Microtubule Affinity-Regulating Kinase 2; ELKL Motif Kinase 1; PAR-1B; PAR-1; EMK1; Serine/Threonine-Protein Kinase MARK2; Ser/Thr Protein Kinase PAR-1B; PAR1 Homolog B; EC 2.7.11.1; EMK-1; Serine/Threonine Protein Kinase EMK; Testicular Tissue Protein Li 117; Protein-Serine/Threonine Kinase; Serine/Threonine Kinase; ELKL Motif Kinase; PAR1 Homolog; EC 2.7.11.26; EC 2.7.11; Par-1b
Immunogen	A synthesized peptide derived from human MARK2

Additional Information

Gene ID	2011
Other Names	Serine/threonine-protein kinase MARK2, 2.7.11.1, 2.7.11.26, ELKL motif kinase 1, EMK-1, MAP/microtubule affinity-regulating kinase 2, PAR1 homolog, PAR1 homolog b, Par-1b, Par1b, MARK2 {ECO:0000312|EMBL:AAH08771.2}, EMK1

Protein Information

Name	MARK2 {ECO:0000312|EMBL:AAH08771.2}
Synonyms	EMK1
Function	Serine/threonine-protein kinase (PubMed: 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). 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 disheveled 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. Phosphorylates UBAC2 at 'Ser-223' during ER stress or starvation-induced autophagy, promoting UBAC2 dimerization and interaction with GABARAP to mediate ER-phagy (PubMed:39284914).

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

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