SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-MARK2/HRP Conjugated antibody

Catalog Number: SL5741R-HRP

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-MARK2/HRP
Immunogen:	KLH conjugated synthetic peptide derived from human MARK2 (236-285aa)
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Rat(predicted:Human,Mouse,Dog,Pig,Cow,Horse,Sheep)
Background:	background: This gene encodes a member of the Par-1 family of serine/threonine protein kinases. The protein is an important regulator of cell polarity in epithelial and neuronal cells, and also controls the stability of microtubules through phosphorylation and inactivation of several microtubule-associating proteins. The protein localizes to cell membranes. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2009]. **Function:** Serine/threonine-protein kinase involved in cell polarity and microtubule dynamics regulation. Phosphorylates CRTC2/TORC2, DCX, HDAC7, KIF13B, MAP2, MAP4, MAPT/TAU, and RAB11FIP2. 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

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	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. **Subunit:** Homodimer. Interacts with PAK7/PAK5; leading to inhibit the protein kinase activity (By similarity). Interacts (when phosphorylated at Thr-596) with YWHAZ. In case of infection, interacts with H.pylori CagA, leading to inhibit kinase activity and junctional and polarity defects. **Subcellular Location:** Cell membrane; Peripheral membrane protein. 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 Specificity:** High levels of expression in heart, brain, skeletal muscle and pancreas, lower levels observed in lung, liver and kidney. **Post-translational modifications:** Autophosphorylated. Phosphorylated at Thr-208 by STK11/LKB1 in complex with STE20-related adapter-alpha (STRADA) pseudo kinase and CAB39. Phosphorylation at Thr-208 by TAOK1 activates the kinase activity, leading to phosphorylation and detachment of MAPT/TAU from microtubules. Phosphorylation at Ser-212 by GSK3-beta (GSK3B) inhibits the kinase activity. Phosphorylation by CaMK1 promotes activity and is required to promote neurite outgrowth. Phosphorylation at Thr-596 by PRKCZ/aPKC in polarized epithelial cells inhibits the kinase activity and promotes binding to 14-3-3 protein YWHAZ, leading to relocation from cell membrane to cytoplasm. **Similarity:** Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. SNF1 subfamily. Contains 1 KA1 (kinase-associated) domain. Contains 1 protein kinase domain. Contains 1 UBA domain.

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	Database links: **Entrez Gene:** 2011 Human **Entrez Gene:** 13728 Mouse **Entrez Gene:** 60328 Rat Omim: 600526 Human **SwissProt:** Q7KZI7 Human **SwissProt:** Q05512 Mouse **SwissProt:** O08679 Rat **Unigene:** 567261 Human **Unigene:** 258986 Mouse **Unigene:** 42926 Rat Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.