

Goat Anti-MARK2 / PAR-1 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1652a

Specification

Goat Anti-MARK2 / PAR-1 Antibody - Product Information

Application	WB
Primary Accession	O7KZ17
Other Accession	NP_059672 , 2011 , 13728 (mouse) , 60328 (rat)
Reactivity	Human
Predicted	Mouse, Rat
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	87911

Goat Anti-MARK2 / PAR-1 Antibody - 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

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-MARK2 / PAR-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-MARK2 / PAR-1 Antibody - 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 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

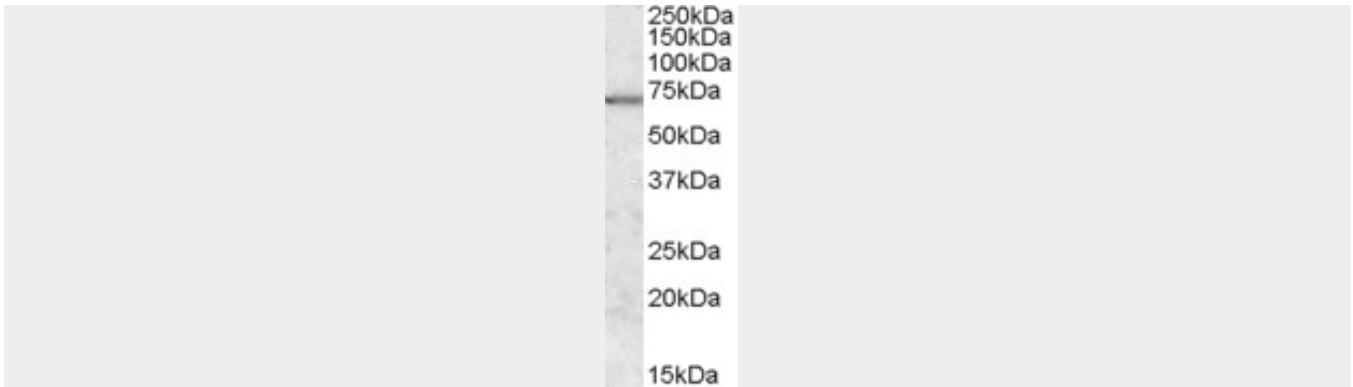
Goat Anti-MARK2 / PAR-1 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Goat Anti-MARK2 / PAR-1 Antibody - Images





AF1652a (0.3 μ g/ml) staining of Human Brain (Cerebellum) lysate (35 μ g protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-MARK2 / PAR-1 Antibody - 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.

Goat Anti-MARK2 / PAR-1 Antibody - References

Par1b/MARK2 phosphorylates kinesin-like motor protein GAKIN/KIF13B to regulate axon formation. Yoshimura Y, et al. *Mol Cell Biol*, 2010 May. PMID 20194617.

The 8th and 9th tandem spectrin-like repeats of utrophin cooperatively form a functional unit to interact with polarity-regulating kinase PAR-1b. Yamashita K, et al. *Biochem Biophys Res Commun*, 2010 Jan 1. PMID 19945424.

Defining the human deubiquitinating enzyme interaction landscape. Sowa ME, et al. *Cell*, 2009 Jul 23. PMID 19615732.

The polarity protein Par1b/EMK/MARK2 regulates T cell receptor-induced microtubule-organizing center polarization. Lin J, et al. *J Immunol*, 2009 Jul 15. PMID 19553522.

High loading dose of clopidogrel is unable to satisfactorily inhibit platelet reactivity in patients with glycoprotein IIIA gene polymorphism: a genetic substudy of PRAGUE-8 trial. Motovska Z, et al. *Blood Coagul Fibrinolysis*, 2009 Jun. PMID 19530321.