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Mouse Prkcq Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14699c

Product Information

Application	WB, IHC-P, E
Primary Accession	Q02111
Other Accession	NP_032885.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34690
Calculated MW	81573
Antigen Region	289-317

Additional Information

Gene ID	18761
Other Names	Protein kinase C theta type, nPKC-theta, Prkcq, Pkcq
Target/Specificity	This Mouse Prkcq antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 289-317 amino acids from the Central region of mouse Prkcq.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Prkcq Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Prkcq
Synonyms	Pkcq
Function	Calcium-independent, phospholipid- and diacylglycerol (DAG)- dependent

	serine/threonine-protein kinase that mediates non-redundant functions in T-cell receptor (TCR) signaling, including T-cells activation, proliferation, differentiation and survival, by mediating activation of multiple transcription factors such as NF-kappa-B, JUN, NFATC1 and NFATC2. In TCR-CD3/CD28-co-stimulated T-cells, is required for the activation of NF-kappa-B and JUN, which in turn are essential for IL2 production, and participates in the calcium-dependent NFATC1 and NFATC2 transactivation. Mediates the activation of the canonical NF-kappa-B pathway (NFKB1) by direct phosphorylation of CARD11 on several serine residues, inducing CARD11 association with lipid rafts and recruitment of the BCL10-MALT1 complex, which then activates IKK complex, resulting in nuclear translocation and activation of NFKB1. May also play an indirect role in activation of the non-canonical NF- kappa-B (NFKB2) pathway. In the signaling pathway leading to JUN activation, acts by phosphorylating the mediator STK39/SPAK and may not act through MAP kinases signaling. Plays a critical role in TCR/CD28-induced NFATC1 and NFATC2 transactivation by participating in the regulation of reduced inositol 1,4,5-trisphosphate generation and intracellular calcium mobilization. After costimulation of T-cells through CD28 can phosphorylate CBLB and is required for the ubiquitination and subsequent degradation of CBLB, which is a prerequisite for the activation of TCR. During T-cells differentiation, plays an important role in the development of T-helper 2 (Th2) cells following immune and inflammatory responses, and, in the development of inflammatory autoimmune diseases, is necessary for the activation of IL17-producing Th17 cells. May play a minor role in Th1 response. Upon TCR stimulation, mediates T-cell protective survival signal by phosphorylating BAD, thus protecting T-cells from BAD-induced apoptosis, and by up-regulating BCL-X(L)/BCL2L1 levels through NF- kappa-B and JUN pathways. In platelets, regulates signal transduction downstream of the ITGA2B, CD36/GP4, F2R/PAR1 and F2RL3/PAR4 receptors, playing a positive role in 'outside-in' signaling and granule secretion signal transduction. May relay signals from the activated ITGA2B receptor by regulating the uncoupling of WASP and WIPF1, thereby permitting the regulation of actin filament nucleation and branching activity of the Arp2/3 complex. May mediate inhibitory effects of free fatty acids on insulin signaling by phosphorylating IRS1, which in turn blocks IRS1 tyrosine phosphorylation and downstream activation of the PI3K/AKT pathway. Phosphorylates MSN (moesin) in the presence of phosphatidylglycerol or phosphatidylinositol. Phosphorylates PDPK1 at 'Ser-504' and 'Ser-532' and negatively regulates its ability to phosphorylate PKB/AKT1. Phosphorylates CCDC88A/GIV and inhibits its guanine nucleotide exchange factor activity (By similarity). Phosphorylates and activates LRRK1, which phosphorylates RAB proteins involved in intracellular trafficking (By similarity).
Cellular Location	Cytoplasm. Cell membrane; Peripheral membrane protein. Note=In resting T-cells, mostly localized in cytoplasm. In response to TCR stimulation, associates with lipid rafts and then localizes in the immunological synapse (By similarity).
Tissue Location	T-lymphocytes and skeletal muscle.

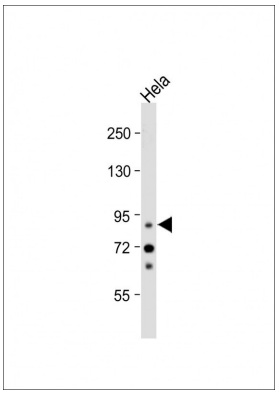
Background

This is a calcium-independent, phospholipid-dependent, serine-and threonine-specific enzyme. Essential for T-cell receptor (TCR)-mediated T-cell activation, but is dispensable during TCR-dependent thymocyte development. Links the TCR signaling complex to the activation of NF-kappa-B in mature T lymphocytes. Required for interleukin-2 (IL2) production. PKC is activated by diacylglycerol which in turn phosphorylates a range of cellular proteins. PKC also serves as the receptor for phorbol esters, a class of tumor promoters.

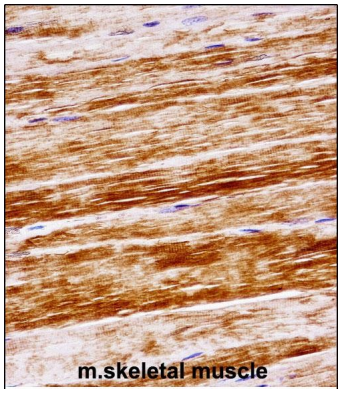
References

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Joo, J.H., et al. Dev. Biol. 345(2):191-203(2010)
Cannons, J.L., et al. J. Immunol. 185(5):2819-2827(2010)
Lanuza, M.A., et al. Exp. Neurol. 225(1):183-195(2010)
Nishanth, G., et al. Infect. Immun. 78(8):3454-3464(2010)

Images



All lanes : Anti-Mouse Prkcq Antibody (Center) at 1:500 dilution Lane 1: Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 85kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Mouse Prkcq Antibody (Center) (AP14699c)immunohistochemistry analysis in formalin fixed and paraffin embedded mouse skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of Mouse Prkcq Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.