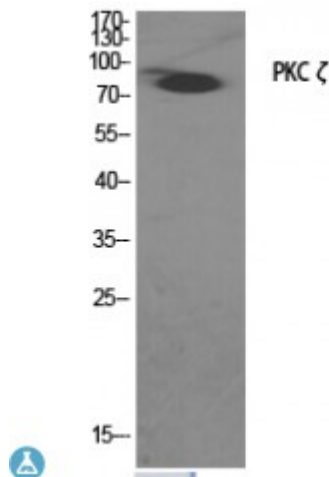


Anti-PKC zeta antibody



Description	Rabbit polyclonal to PKC zeta.
Model	STJ95130
Host	Rabbit
Reactivity	Human, Mouse, Rat, Simian
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human PKC zeta around the non-phosphorylation site of T560.
Immunogen Region	500-580 aa
Gene ID	5590
Gene Symbol	PRKCZ
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:5000
Specificity	PKC zeta Polyclonal Antibody detects endogenous levels of PKC zeta protein.
Tissue Specificity	Expressed in brain, and to a lesser extent in lung, kidney and testis.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Protein kinase C zeta type nPKC-zeta
Molecular Weight	80 kDa
Clonality	Polyclonal

Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:9412OMIM:176982
Alternative Names	Protein kinase C zeta type nPKC-zeta
Function	Calcium- and diacylglycerol-independent serine/threonine-protein kinase that functions in phosphatidylinositol 3-kinase (PI3K) pathway and mitogen-activated protein (MAP) kinase cascade, and is involved in NF-kappa-B activation, mitogenic signaling, cell proliferation, cell polarity, inflammatory response and maintenance of long-term potentiation (LTP). Upon lipopolysaccharide (LPS) treatment in macrophages, or following mitogenic stimuli, functions downstream of PI3K to activate MAP2K1/MEK1-MAPK1/ERK2 signaling cascade independently of RAF1 activation. Required for insulin-dependent activation of AKT3, but may function as an adapter rather than a direct activator. Upon insulin treatment may act as a downstream effector of PI3K and contribute to the activation of translocation of the glucose transporter SLC2A4/GLUT4 and subsequent glucose transport in adipocytes. In EGF-induced cells, binds and activates MAP2K5/MEK5-MAPK7/ERK5 independently of its kinase activity and can activate JUN promoter through MEF2C. Through binding with SQSTM1/p62, functions in interleukin-1 signaling and activation of NF-kappa-B with the specific adapters RIPK1 and TRAF6. Participates in TNF-dependent transactivation of NF-kappa-B by phosphorylating and activating IKBKB kinase, which in turn leads to the degradation of NF-kappa-B inhibitors. In migrating astrocytes, forms a cytoplasmic complex with PARD6A and is recruited by CDC42 to function in the establishment of cell polarity along with the microtubule motor and dynein. In association with FEZ1, stimulates neuronal differentiation in PC12 cells. In the inflammatory response, is required for the T-helper 2 (Th2) differentiation process, including interleukin production, efficient activation of JAK1 and the subsequent phosphorylation and nuclear translocation of STAT6. May be involved in development of allergic airway inflammation (asthma), a process dependent on Th2 immune response. In the NF-kappa-B-mediated inflammatory response, can relieve SETD6-dependent repression of NF-kappa-B target genes by phosphorylating the RELA subunit at 'Ser-311'. Necessary and sufficient for LTP maintenance in hippocampal CA1 pyramidal cells. In vein endothelial cells treated with the oxidant peroxynitrite, phosphorylates STK11 leading to nuclear export of STK11, subsequent inhibition of PI3K/Akt signaling, and increased apoptosis. Phosphorylates VAMP2 in vitro .
Sequence and Domain Family	The PB1 domain mediate mutually exclusive interactions with SQSTM1 and PARD6B. The C1 domain does not bind the diacylglycerol (DAG).
Cellular Localization	Cytoplasm Endosome Cell junction. In the retina, localizes in the terminals of the rod bipolar cells. Associates with endosomes. Presence of KRIT1, CDH5 and RAP1B is required for its localization to the cell junction. Colocalizes with VAMP2 and WDFY2 in intracellular vesicles.

**Post-translational
Modifications**

CDH5 is required for its phosphorylation at Thr-410. Phosphorylated by protein kinase PDPK1; phosphorylation is inhibited by the apoptotic C-terminal cleavage product of PKN2. Phosphorylation at Thr-410 by PI3K activates the kinase.

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