

**Mouse Prkcz Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP14258a****Specification**

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**Mouse Prkcz Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [Q02956](#)**Mouse Prkcz Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 18762**Other Names**

Protein kinase C zeta type, nPKC-zeta, Prkcz, Pkcz

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**Mouse Prkcz Antibody (N-term) Blocking Peptide - Protein Information****Name** Prkcz**Synonyms** Pkcz**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'. Phosphorylates VAMP2 in vitro (By similarity).

#### **Cellular Location**

Cytoplasm {ECO:0000250|UniProtKB:Q05513}. Endosome {ECO:0000250|UniProtKB:Q05513}. Cell junction {ECO:0000250|UniProtKB:Q05513}. Membrane {ECO:0000250|UniProtKB:P09217}; Peripheral membrane protein. Note=In the retina, localizes in the terminals of the rod bipolar cells (By similarity). Associated with endosomes (By similarity). Presence of KRIT1, CDH5 and RAP1B is required for its localization to the cell junction (By similarity). Colocalizes with VAMP2 and WDFY2 in intracellular vesicles (PubMed:17313651) Transiently translocates to the membrane of CA1 hippocampal cells in response to the induction of long term potentiation (By similarity) {ECO:0000250|UniProtKB:P09217, ECO:0000250|UniProtKB:Q05513, ECO:0000269|PubMed:17313651}

#### **Tissue Location**

Isoform 1: In brain, highly expressed in cerebellar granule neurons and cerebellar astrocytes (at protein level) (PubMed:1487145, PubMed:12932816). Expressed at low levels in testes, lung and kidney (PubMed:1487145, PubMed:23283171). Isoform 2: Specifically expressed in brain where it localizes to cerebellar granule neurons (at protein level) (PubMed:12932816, PubMed:23283171)

### **Mouse Prkcz Antibody (N-term) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

### **Mouse Prkcz Antibody (N-term) Blocking Peptide - Images**

### **Mouse Prkcz Antibody (N-term) Blocking Peptide - Background**

This is a calcium-independent, phospholipid-dependent, serine-and threonine-specific enzyme. Phosphorylates KCNAB2. 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. Subunit of a quaternary complex that plays a central role in epithelial cell polarization.

### **Mouse Prkcz Antibody (N-term) Blocking Peptide - References**

Lee, S.J., et al. Cell Metab. 12(1):65-77(2010)Gao, N., et al. Genes Dev. 24(12):1295-1305(2010)Yates, L.L., et al. Hum. Mol. Genet. 19(11):2251-2267(2010)Kim, S., et al. Neuron 66(1):69-84(2010)de Thonel, A., et al. Mol. Biol. Cell 21(8):1423-1434(2010)