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PKC zeta Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP7028a

Specification

PKC zeta Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q05513

PKC zeta Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 5590

Other Names
Protein kinase C zeta type, nPKC-zeta, PRKCZ, PKC2

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.

PKC zeta Antibody (N-term) Blocking Peptide - Protein Information

Name PRKCZ

Synonyms PKC2

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 (PubMed:17313651).

Cellular Location
Cytoplasm. Endosome Cell junction. Membrane {ECO:0000250|UniProtKB:P09217}; Peripheral membrane protein. Note=In the retina, localizes in the terminals of the rod bipolar cells (By similarity). Associates with endosomes (PubMed:9566925). Presence of KRIT1, CDH5 and RAP1B is required for its localization to the cell junction (PubMed:7597083). 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:0000269|PubMed:17313651, ECO:0000269|PubMed:7597083, ECO:0000269|PubMed:9566925}

Tissue Location
Expressed in brain, and to a lesser extent in lung, kidney and testis

PKC zeta Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

PKC zeta Antibody (N-term) Blocking Peptide - Images

PKC zeta Antibody (N-term) Blocking Peptide - Background

Protein kinase C (PKC) zeta is a member of the PKC family of serine/threonine kinases which are involved in a variety of cellular processes such as proliferation, differentiation and secretion. Unlike the classical PKC isoenzymes which are calcium-dependent, PKC zeta exhibits a constitutive kinase activity which is independent of calcium, and PKC activators, phosphatidylserine and diacylglycerol. Furthermore, it is insensitive to PKC inhibitors and cannot be activated by phorbol ester. The structural and biochemical properties indicate that the zeta subspecies is related to, but distinct from other isoenzymes of PKC.

PKC zeta Antibody (N-term) Blocking Peptide - References

Li, Y.F., et al., World J. Gastroenterol. 9(9):2078-2082 (2003).Minami, T., et al., J. Biol. Chem. 278(9):6976-6984 (2003).Beeson, M., et al., Diabetes 52(8):1926-1934 (2003).Laudanna, C., et al., Lab. Invest. 83(8):1155-1163 (2003).Dada, L.A., et al., J. Clin. Invest. 111(7):1057-1064 (2003).