

ARG11175 anti-PKC zeta antibody [R14-K]

Package: 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Monoclonal antibody [R14-K] recognizes PKC zeta
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IP, WB
Host	Rabbit
Clonality	Monoclonal
Clone	R14-K
Isotype	IgG
Target Name	PKC zeta
Species	Human
Immunogen	Synthetic peptide corresponding to internal region of human PKC zeta.
Conjugation	Un-conjugated
Alternate Names	PRKCZ; protein kinase C, zeta; PKC2; PKC-ZETA; nPKC-zeta; Protein kinase C zeta type; EC 2.7.11.13

Application Instructions

Application table	Application	Dilution
	ICC/IF	1:100 - 1:400
	IP	Assay-dependent
	WB	1:5000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

Properties

Form	Liquid
Buffer	20 mM Tris-HCl, 0.05% Sodium Azide, 10 mg/ml BSA
Preservative	0.05% Sodium Azide
Stabilizer	10 mg/ml BSA
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Gene Symbol	PRKCZ
Gene Full Name	protein kinase C, zeta
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 kinase activity which is independent of calcium and diacylglycerol but not of phosphatidylserine. Furthermore, it is insensitive to typical PKC inhibitors and cannot be activated by phorbol ester. Unlike the classical PKC isoenzymes, it has only a single zinc finger module. These structural and biochemical properties indicate that the zeta subspecies is related to, but distinct from other isoenzymes of PKC. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jul 2008]
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. [UniProt]
Calculated Mw	68 kDa
PTM	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. [UniProt]
Cellular Localization	Nucleus. [UniProt]