10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# phospho-PKC eta (Thr656) Rabbit pAb

Catalog # AP99815

## Product Information

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| **Application** | WB, IHC-P, IHC-F, IF, E |
| **Primary Accession** | P24723 |
| **Other Accession** | P24723 |
| **Predicted** | Rat, Human, Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 77828 |
| **Physical State** | Liquid |
| **Immunogen** | KLH conjugated synthesised phosphopeptide derived from human PKC eta around the phosphorylation site of Thr656 |
| **Epitope Specificity** | VL(p-T)PI |
| **Isotype** | IgG |
| **Purity** | affinity purified by Protein A |
| **Buffer** | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| **SIMILARITY** | Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. PKC subfamily. Contains 1 AGC-kinase C-terminal domain. Contains 1 C2 domain. Contains 2 phorbol-ester/DAG-type zinc fingers. Contains 1 protein kinase domain. |
| **DISEASE** | Defects in PRKCH may be a cause of susceptibility to ischemic stroke (ISCHSTR) [MIM:601367]; also known as cerebrovascular accident or cerebral infarction. A stroke is an acute neurologic event leading to death of neural tissue of the brain and resulting in loss of motor, sensory and/or cognitive function. Ischemic strokes, resulting from vascular occlusion, is considered to be a highly complex disease consisting of a group of heterogeneous disorders with multiple genetic and environmental risk factors. |
| **Important Note** | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **Background Descriptions** | Protein kinase C (PKC) is a family of serine- and threonine-specific protein kinases that can be activated by calcium and the second messenger diacylglycerol. PKC family members phosphorylate a wide variety of protein targets and are known to be involved in diverse cellular signaling pathways. PKC family members also serve as major receptors for phorbol esters, a class of tumor promoters. Each member of the PKC family has a specific expression profile and is believed to play a distinct role in cells. The protein encoded by this gene is one of the PKC family members. It is a calcium-independent and phospholipids-dependent protein kinase. It is predominantly expressed in epithelial tissues and has been shown to reside specifically in the cell nucleus. This protein kinase can regulate keratinocyte differentiation by activating the MAP kinase MAPK13 (p38delta)-activated protein kinase cascade that targets CCAAT/enhancer-binding protein alpha (CEBPA). It is also found to mediate the transcription activation of the transglutaminase 1 (TGM1) gene. [provided by RefSeq, Jul 2008] |

## Additional Information

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| **Gene ID** | 5583 |
| **Other Names** | PKC-L; PKCL; PRKCL; nPKC-eta; uORF2; Pkch; KPCL_HUMAN; PRKCH; 2.7.11.13; KPCL_MOUSE; KPCL_RAT; protein kinase C eta; protein kinase C, eta; PRKCH \| PKC eta (phospho-T656); p-PKC eta; phospho-PKC eta; p-PRKCH; PRKCH \| PKC eta (phospho-Thr656) |
| **Dilution** | WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000 |
| **Storage** | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

## Protein Information

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| **Name** | PRKCH |
| **Synonyms** | PKCL, PRKCL |
| **Function** | Calcium-independent, phospholipid- and diacylglycerol (DAG)- dependent serine/threonine-protein kinase that is involved in the regulation of cell differentiation in keratinocytes and pre-B cell receptor, mediates regulation of epithelial tight junction integrity and foam cell formation, and is required for glioblastoma proliferation and apoptosis prevention in MCF-7 cells. In keratinocytes, binds and activates the tyrosine kinase FYN, which in turn blocks epidermal growth factor receptor (EGFR) signaling and leads to keratinocyte growth arrest and differentiation. Associates with the cyclin CCNE1- CDK2-CDKN1B complex and inhibits CDK2 kinase activity, leading to RB1 dephosphorylation and thereby G1 arrest in keratinocytes. In association with RALA activates actin depolymerization, which is necessary for keratinocyte differentiation. In the pre-B cell receptor signaling, functions downstream of BLNK by up-regulating IRF4, which in turn activates L chain gene rearrangement. Regulates epithelial tight junctions (TJs) by phosphorylating occludin (OCLN) on threonine residues, which is necessary for the assembly and maintenance of TJs. In association with PLD2 and via TLR4 signaling, is involved in lipopolysaccharide (LPS)-induced RGS2 down-regulation and foam cell formation. Upon PMA stimulation, mediates glioblastoma cell proliferation by activating the mTOR pathway, the PI3K/AKT pathway and the ERK1-dependent phosphorylation of ELK1. Involved in the protection of glioblastoma cells from irradiation-induced apoptosis by preventing caspase-9 activation. In camptothecin-treated MCF-7 cells, regulates NF-kappa-B upstream signaling by activating IKBKB, and confers protection against DNA damage-induced apoptosis. Promotes oncogenic functions of ATF2 in the nucleus while blocking its apoptotic function at mitochondria. Phosphorylates ATF2 which promotes its nuclear retention and transcriptional activity and negatively regulates its mitochondrial localization. |
| **Cellular Location** | Cytoplasm. |
| **Tissue Location** | Most abundant in lung, less in heart and skin. |

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