

# PKC $\alpha$ (Ser-657/Tyr-658), phospho-specific

Cat. # PP1091

Host Rabbit Polyclonal

Size 100  $\mu$ l

## Background:

The Protein Kinase C (PKC) family of homologous serine/threonine protein kinases is involved in a number of processes such as growth, differentiation, and cytokine secretion. At least eleven isozymes have been described. PKC consists of a single polypeptide chain containing four conserved regions (C) and five variable regions (V). The N-terminal half interacts with PKC activators Ca<sup>2+</sup>, phospholipid, diacylglycerol, or phorbol ester, while the C-terminal half contains the catalytic domain. The conventional PKC subfamily ( $\alpha$ ,  $\beta$ I,  $\beta$ II, and  $\gamma$ ) is regulated by both Ca<sup>2+</sup> and diacylglycerol. The PKC pathway represents a major signal transduction system that is activated following ligand-stimulation of transmembrane receptors by hormones, neurotransmitters, and growth factors. The phosphorylation of multiple sites in conventional PKCs regulates their activity. In mast cells, Fc $\epsilon$ RI stimulation leads to phosphorylation of tyrosine 658 and 662 of PKC $\beta$ I and PKC $\alpha$ , respectively. This phosphorylation requires autophosphorylation of serine 657 and 661 in these respective kinases.

## References

Kawakami et al. (2003) Proc. Natl. Acad. Sci. USA 100:9470-9475.  
Nishizuka, Y. (1988) Nature 334:661.

## Immunogen:

Phospho-PKC $\alpha$  (Ser-657/Tyr-658) synthetic peptide corresponds to amino acid residues around serine 657 and tyrosine 658 of human PKC $\alpha$ . This sequence is similar to the conserved sites in rat and mouse, and has high homology to dual sites in human, rat, and mouse PKC $\beta$ I (Ser-661/Tyr-662) and PKC $\gamma$  (Thr-674/Tyr-675).

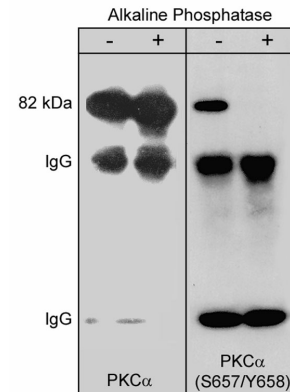
## Applications:

WB 1:1000  
ELISA 1:2000  
IP 1:100

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

## Related Products:

PX1095 phospho-PKC $\alpha$  (Ser-657/Tyr-658) Peptide  
PM1101 PKC ( $\alpha$ , $\beta$ , $\gamma$ ) Mouse Monoclonal  
PM2371 PKC $\alpha$  (Central region) Mouse Monoclonal  
PM2421 PKC $\delta$  (N-terminal region) Mouse Monoclonal  
PM2171 PKC $\theta$  (N-terminal region) Mouse Monoclonal



Western blot analysis of immunoprecipitates from neonatal rat brain lysate using anti-PKC $\alpha$  antibody. Control and alkaline phosphatase treated precipitates were probed with anti-PKC $\alpha$  (Central region) or anti-phospho-PKC $\alpha$  (Ser-657/Tyr-658). The latter shows no detection of PKC $\alpha$  after phosphatase treatment.

## Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100 $\mu$ l phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

## Specificity:

This antibody detects an 82kDa\* protein corresponding to the molecular mass of phosphorylated PKC $\alpha$  on SDS-PAGE immunoblots of neonatal rat brain lysate. Similar results were observed in human SKN-SH, endothelial, and HeLa cells, as well as rabbit spleen fibroblasts and rat pituitary cells. In immunoprecipitation experiments with various PKC isoforms, this antibody detected PKC $\alpha$  and PKC $\beta$  but not other PKC isoforms in rat brain lysate.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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