

# phospho- PKC $\alpha$ (Ser-657/Tyr-658) Blocking Peptide

Cat. # **PX1095**

Size **50  $\mu$ g**

## **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.

## **Peptide Sequence:**

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 a dual phosphorylation site found in PKC $\beta$ I (Ser-661/Tyr-662). These human sequences are highly conserved in rat and mouse PKC $\alpha$  and PKC $\beta$ I. In addition, this dual site is homologous to threonine 674 and tyrosine 675 in human PKC $\gamma$ , although this blocking activity has not been confirmed.

## **Buffer and Storage:**

Blocking Peptide is supplied in 50 $\mu$ l phosphate-buffered saline and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

## **Applications:**

Antibody Blocking 1  $\mu$ g/ml<sup>1</sup>

ELISA 10-100 ng/well<sup>2</sup>

End user should determine optimal concentration dependent on the concentration of the antibody.

<sup>1</sup>Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.

<sup>2</sup>Established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

The peptide is specifically recognized by anti-PKC $\alpha$  (Ser-657/Tyr-658) phospho-specific antibody (PP1091) in ELISA, and has been shown to block the reactivity of PP1091 during Western blot. In addition, the peptide is recommended for use in blocking PP1091 reactivity in immunocytochemistry.

## **Related Products:**

PP1091 PKC $\alpha$  (Ser-657/Tyr-658), phospho-specific Rabbit Polyclonal

BL7001 Neonatal Rat Brain Lysate

PM1101 PKC ( $\alpha,\beta,\gamma$ ) Mouse Monoclonal

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