PKC (α,β2,γ)

Mouse Monoclonal IgG1

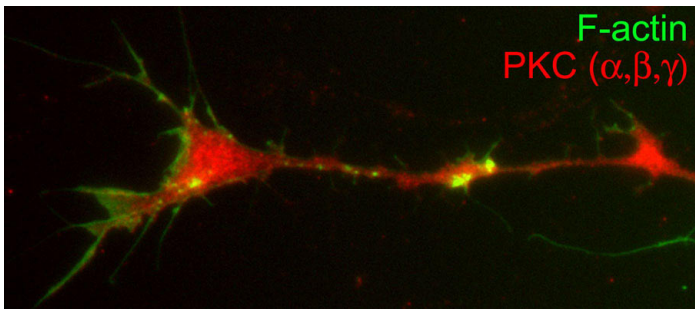
Cat. # PM1101
Size 100 µl

Background

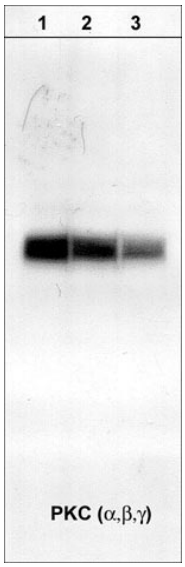
The Protein Kinase C (PKC) family of homologous serine/threonine protein kinases is involved in a number of processes such as growth, differentiation, and cytokine secretion. At least eleven isozymes have been described. PKC consists of a single polypeptide chain containing four conserved regions (C) and five variable regions (V). The N-terminal half interacts with PKC activators Ca2+, phospholipid, diacylglycerol, or phorbol ester, while the C-terminal half contains the catalytic domain. The conventional PKC subfamily (α, β1, βII, and γ) is regulated by both Ca2+ 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, FceRI stimulation leads to phosphorylation of tyrosine 658 and 662 of PKCα and PKCβI respectively. This phosphorylation requires autophosphorylation of serine 657 and 661 in these respective kinases.

Background References

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



Immunocytochemical labeling of PKC relative to F-actin in chick DRG neurons. The cells were labeled with mouse monoclonal PKC (α,β,γ) antibody (PM1101), then detected using appropriate secondary antibody (Red). This labeling is compared to F-actin staining (Green). (Image provided by Dr. Gianluca Gallo at Drexel University).



Western blot analysis of PKC isoforms in neonatal rat brain lysate. The rat brain blot was probed with anti-PKC (α,β,γ) at decreasing dilutions:

Lane 1 = 1:250
Lane 2 = 1:500
Lane 3 = 1:1000

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Rev 3/19/2018

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Immunogen

Clone (M110) was generated from a recombinant human PKCγ that included amino acids residues 499-697.

Buffer and Storage

Mouse monoclonal antibody purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Applications

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

Species Reactivity

Hu, Rt, Ms, Ck

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, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody detects 80-82kDa* proteins corresponding to the molecular mass of PKCα, PKCβ, and PKCγ on SDS-PAGE immunoblots of neonatal rat brain lysates. Similar results were observed in human and mouse lysates. Immunoprecipitation experiments with various PKC isoforms demonstrated this antibody detects PKCα, PKCβ2, and PKCγ, but does not detect PKCβ2 isoform. The antibody also detects these PKC isoforms in chick DRG neurons.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

PP1091 PKCα (Ser-657/Tyr-658), phospho-specific Rabbit Polyclonal

PX1095 phospho-PKCα (Ser-657/Tyr-658) Blocking Peptide

PM2371 PKCα (Central region) Mouse Monoclonal

PM2421 PKCδ (N-terminal region) Mouse Monoclonal

PM2171 PKCθ (N-terminal region) Mouse Monoclonal

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