

Product Datasheet

Phospho-PKC (pan) (gamma Thr514) (PF4) rabbit mAb Antibody (orb1946008)

Catalog Number orb1946008

Category Antibodies

Description Protein Kinase (PKC) is a 12 member family of serine/threonine kinases termed conventional or classical(a,b,g), novel (d,e, and q), atypical (z, l) and PKN and PKC-related (PKN1, PKN2 and PKN3) playing significant role in several signaling processes involved in physiological and pathological setting (1). PKC activation translates into gene expression modulation, cell division, migration, proliferation, differentiation, and cell survival and apoptosis (2). PKC members are classified based on their distinct cofactor requirements and the extent of homology between their regulatory elements (3,4). PKC α , PKC β I, PKC β II, and PKC γ constitute the conventional PKC isoforms, characterized by the presence of two cysteine-rich zinc finger domains, C1a and C1b (5,6) which bind to diacylglycerol (DAG) and phosphatidylserine (PS) (7). In addition, PKC contains a C2 domain, responsible for binding anionic phospholipids like phosphatidylinositol bisphosphate (PIP₂) in a Ca²⁺-dependent manner (8,9). The atypical PKC, PKC ζ and PKC ι share ATP-binding domain and the catalytic domain with PKC. They contain a single C1 domain that lacks residues necessary for binding DAG (10). Association of PKC γ to the membrane enables a conformation that permits phosphoinositide-dependent protein kinase1 (PDK-1) (11) to bind and phosphorylate a site in the activation loop, Thr514. (12,13). Thr514 phosphorylation leads to a conformation change enabling phosphorylation of at two carboxyl-terminal sites namely, the turn motif and hydrophobic motif, as a result of which the fully phosphorylated conventional PKC is released from the membrane, and positioned in the cytoplasm as an inactive form (14,15). Binding of Ca²⁺ induces low-affinity interaction with the membrane, whereas the membrane imbedded cofactor DAG to PKC results in high-affinity interaction of PKC with the membrane (16).

Clonality Monoclonal

Species/Host Rabbit

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Isotype	Rabbit IgG1k
Conjugation	Unconjugated
Reactivity	Human, Mouse, Rat
Form/Appearance	Liquid
Concentration	0.5 mg/mL
Buffer/Preservatives	1X PBS, 0.02% NaN ₃ , 50% Glycerol, 0.1% rAlbumin
Purification	Protein A+G
Immunogen	A synthetic phospho-peptide corresponding to residues surrounding Thr514 of human phospho PKC γ
UniProt ID	P05129, Q04759, P24723, Q02156, P17252, Q05655, P05771
Tested applications	FC, WB
Dilution range	1 μ g/mL - 0.001 μ g/mL. It is recommended that the reagent be titrated for optimal performance for each application. See product image legends for additional information.
Cross Reactivity	Predicted to work with mouse, rat and other homologues.
Clone Number	PKC γ T514-PF4
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Note	For research use only
Expiration Date	12 months from date of receipt.

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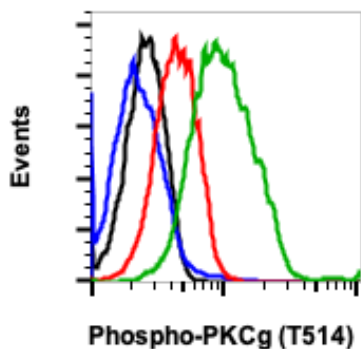
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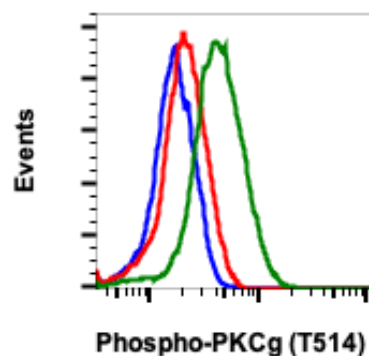
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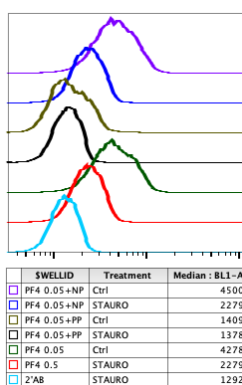
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Flow cytometric analysis of HT1080 cells treated with staurosporine (red) or untreated (green) using Phospho-PKCg (Thr514) (PF4) Rabbit mAb. at 0.05 ug/mL, PKCgT514-PF4 #orb1946008, or concentration-matched Rabbit (G9) mAb IgG Isotype Control #orb1946241 for cells treated with staurosporine (black) or untreated (blue). Flow cytometric analysis of HT1080 cells, treated with staurosporine and stained with the secondary antibody only as negative control (blue) or treated with staurosporine (red) or untreated (green) using Phospho-PKC (pan) (gamma Thr514) antibody PKCgT514-PF4 at 0.05 µg/mL. Cat. #orb1946008.



Flow cytometric analysis of Jurkat cells, treated with K252a and stained with the secondary antibody only negative control (blue) or treated with K252a (red) or untreated (green) using Phospho-PKC (pan) (gamma Thr514) antibody PKCgT514-PF4 at 0.1 µg/mL. Cat. #orb1946008.



Peptide blocking flow cytometric analysis of HT1080 cells secondary antibody only negative control (light blue) or untreated (red) or treated with staurosporine (green) or untreated and blocked with phospho-peptide (black) or treated with staurosporine and blocked with phospho peptide (gold) or untreated and blocked with non-phospho peptide (dark blue) or treated with staurosporine and blocked with non-phospho peptide (purple) using Phospho-PKCg (Thr514) antibody PKCGT514-PF4 at 0.05 µg/mL. Cat. #orb1946008.

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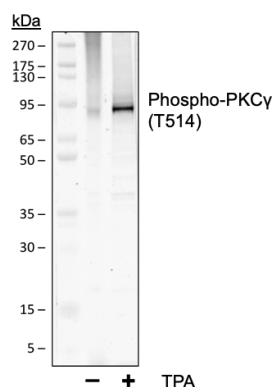
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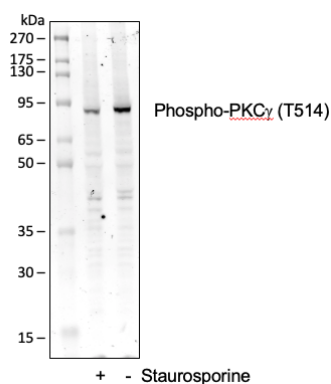
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Western blot analysis of NIH3T3 cell extract untreated or treated with TPA using Phospho-PKC (pan) (gamma Thr514) antibody PKCgT514-PF4 at 0.05 ug/mL. Cat. #orb1946008.



Western blot analysis of C6 cell extract untreated or treated with staurosporine using Phospho-PKC (pan) gamma (Thr514) antibody PKCgT514-PF4 at 0.1 ug/mL. Cat. #orb1946008.

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