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Datasheet for ABIN967751

## anti-PKC alpha antibody (AA 270-427)

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### Overview

Quantity:	150 µg
Target:	PKC alpha (PKCa)
Binding Specificity:	AA 270-427
Reactivity:	Human, Mouse, Rat, Dog, Chicken, Frog
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This PKC alpha antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP), Immunofluorescence (IF)

### Product Details

Immunogen:	Human PKCalpha aa. 270-427
Clone:	3-PKCalpha
Isotype:	IgG2b kappa
Cross-Reactivity:	Rat (Rattus), Mouse (Murine), Human, Chicken, Dog (Canine), Frog
Characteristics:	<ol style="list-style-type: none"><li>1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.</li><li>2. Please refer to us for technical protocols.</li><li>3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.</li><li>4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.</li></ol>

## Product Details

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**Purification:** The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

## Target Details

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**Target:** PKC alpha (PKCa)

**Alternative Name:** PKC alpha ([PKCa Products](#))

**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. These proteins are products of multiple genes and alternative splicing. PKC consists of a single polypeptide chain containing four conserved regions (C) and five variable regions (V). The N-terminal half containing C1, C2, V1, and V2 constitutes the regulatory domain and interacts with PKC activators Ca<sup>2+</sup>, phospholipid, diacylglycerol, or phorbol ester. However, the novel PKC (nPKC) subfamily members (delta, epsilon, eta, and theta isoforms) and the atypical PKC (aPKC) subfamily members (zeta, iota, and lambda isoforms) are Ca<sup>2+</sup> independent and lack the C2 domain. The aPKC members are unique in that their activity is independent of diacylglycerols and phorbol esters. They also lack one repeat of the cysteine-rich sequences that are conserved in cPKC and nPKC. The C-terminal region of PKC contains the catalytic domain. The PKC pathway represents a major signal transduction system that is activated following ligand-stimulation of transmembrane receptors by hormones, neurotransmitters and growth factors. Overexpression of PKCalpha has been reported to lead to an enhanced growth rate and induces the phosphorylation of two cellular proteins of 52 kDa and 90 kDa. This antibody is routinely tested by western blot analysis.

This antibody has been reported to also crossreact with PKCbeta.

Synonyms: Protein Kinase Calpha

**Molecular Weight:** 82 kDa

**Pathways:** [WNT Signaling](#), [TCR Signaling](#), [EGFR Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Thyroid Hormone Synthesis](#), [cAMP Metabolic Process](#), [Myometrial Relaxation and Contraction](#), [Cell-Cell Junction Organization](#), [Regulation of G-Protein Coupled Receptor Protein Signaling](#), [G-protein mediated Events](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Interaction of EGFR with phospholipase C-gamma](#), [Thromboxane A2 Receptor Signaling](#), [VEGFR1 Specific Signals](#), [VEGF Signaling](#)

## Application Details

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Comment: Related Products: ABIN968545, ABIN967389

Restrictions: For Research Use only

## Handling

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Format: Liquid

Concentration: 250 µg/mL

Buffer: Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide.

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C

Storage Comment: Store undiluted at -20° C.

## Publications

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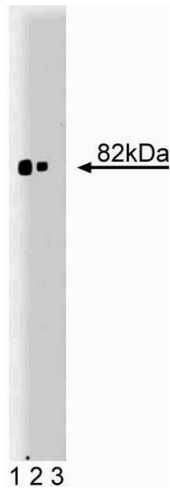
Product cited in: Powner, Hodgkin, Wakelam: "Antigen-stimulated activation of phospholipase D1b by Rac1, ARF6, and PKCalpha in RBL-2H3 cells." in: **Molecular biology of the cell**, Vol. 13, Issue 4, pp. 1252-62, (2002) ([PubMed](#)).

Wagner, Fowler, Takemoto: "The interaction and phosphorylation of tropomodulin by protein kinase Calpha in N/N 1003A lens epithelial cells." in: **Molecular vision**, Vol. 8, pp. 394-406, (2002) ([PubMed](#)).

Zhang, Bontrager, Hemler: "Transmembrane-4 superfamily proteins associate with activated protein kinase C (PKC) and link PKC to specific beta(1) integrins." in: **The Journal of biological chemistry**, Vol. 276, Issue 27, pp. 25005-13, (2001) ([PubMed](#)).

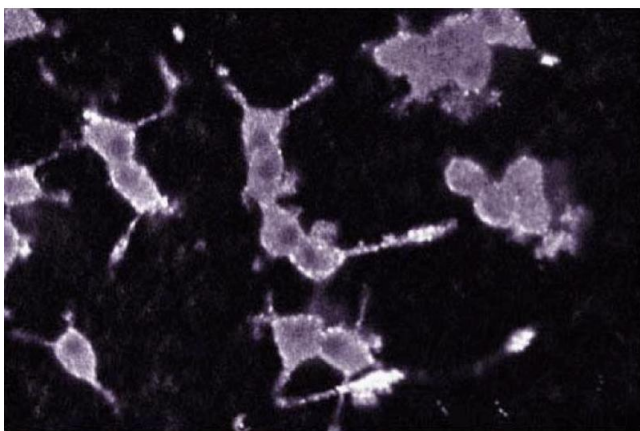
Smart, Ying, Anderson: "Hormonal regulation of caveolae internalization." in: **The Journal of cell biology**, Vol. 131, Issue 4, pp. 929-38, (1996) ([PubMed](#)).

Nishizuka: "The molecular heterogeneity of protein kinase C and its implications for cellular regulation." in: **Nature**, Vol. 334, Issue 6184, pp. 661-5, (1988) ([PubMed](#)).



### Western Blotting

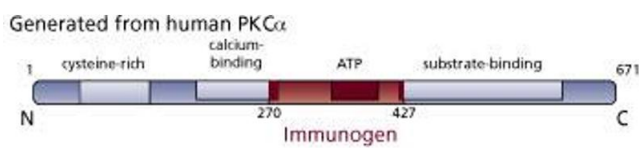
**Image 1.** Western blot analysis of PKC $\alpha$  on a rat cerebrum lysate. Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti-PKCalpha antibody.



### Immunofluorescence

**Image 2.** Immunofluorescence staining of PC12 cells (Rat neuroblastoma, ATCC CRL-1721).

### Image 3.



Please check the [product details page](#) for more images. Overall 4 images are available for ABIN967751.