Technical Data Sheet

Purified Mouse Anti-PKCα

**Product Information**

- **Material Number:** 610108
- **Alternate Name:** Protein Kinase Cα
- **Size:** 150 µg
- **Concentration:** 250 µg/ml
- **Clone:** 3/PKCα
- **Immunogen:** Human PKCα aa. 270-427
- **Isotype:** Mouse IgG2b
- **Reactivity:** QC Testing: Rat
  Tested in Development: Mouse, Human, Chicken, Dog, Frog
  Reactivity: 82 kDa
- **Target MW:** Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

**Description**

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 Ca2+, phospholipid, diacylglycerol, or phorbol ester. However, the novel PKC (nPKC) subfamily members (β, ε, η, and θ isoforms) and the atypical PKC (aPKC) subfamily members (ζ, τ, and λ isoforms) are Ca2+ 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 PKCα 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 has been reported to also crossreact with PKCβ.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

**Western blot analysis of PKCs on a rat cerebrum lysate.** Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti-PKCα antibody.

**Immunofluorescence staining of PC12 cells (Rat neuroblastoma; ATCC CRL-1721).**

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20° C.

Application Notes

<table>
<thead>
<tr>
<th>Application</th>
<th>Status</th>
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<tbody>
<tr>
<td>Western blot</td>
<td>Routinely Tested</td>
</tr>
<tr>
<td>Immunoprecipitation</td>
<td>Tested During Development</td>
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<tr>
<td>Immunofluorescence</td>
<td>Tested During Development</td>
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<tr>
<td>Immunohistochemistry</td>
<td>Tested During Development</td>
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Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>611463</td>
<td>Rat Cerebrum Lysate</td>
<td>500 µg</td>
<td>(none)</td>
</tr>
<tr>
<td>554002</td>
<td>HRP Goat Anti-Mouse Ig</td>
<td>1.0 ml</td>
<td>(none)</td>
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<tr>
<td>554001</td>
<td>FITC Goat Anti-Mouse Ig</td>
<td>0.5 mg</td>
<td>Polyclonal</td>
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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Powner DJ, Hodgkin MN, Wakeland MJ. Antigen-stimulated activation of phospholipase D1b by Rac1, ARF6, and PKCalpha in RBL-2H3 cells. Mol Biol Cell. 2002; 13(4):1252-1262.(Biology: Immunofluorescence, Western blot)