## **Technical Data Sheet**

# PE Mouse anti-Human PKC0

#### **Product Information**

Material Number:	er: 560216		
Alternate Name: KPCT, nPKC-0, PRKCQ, PRKCT			
Size:	50 tests		
Vol. per Test:	20 µl		
Clone:	27/РКС0		
Immunogen:	Human PKC0 aa. 21-217 Recombinant Protein		
Isotype:	Mouse IgG2a, κ		
Reactivity:	QC Testing: Human		
Storage Buffer:	Aqueous buffered solution containing BSA 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. Conventional PKC (cPKC) subfamily members ( $\alpha$ ,  $\beta$ , and  $\gamma$  isoforms) 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 the PKC activators Ca2+, phospholipid, diacylglycerol, or phorbol ester. However, the the C2-like domains of novel PKC (nPKC) subfamily members ( $\delta$ ,  $\varepsilon$ ,  $\eta$ , and  $\theta$  isoforms) are Ca2+-independent. The atypical PKC (aPKC) subfamily members ( $\zeta$ ,  $\iota$ , and  $\lambda$  isoforms) lack the C2 domain and 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 members. 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. PKC $\theta$  mRNA is readily detectable in skeletal muscle, lung and brain. However, PKC $\theta$  expression is not detected in several human carcinoma cell lines. Abundant expression of this PKC isozyme in hematopoietic cells suggest that it may have a role in growth and differentiation processes of these cells.

The 27/PKC0 monoclonal antibody recognizes the C2-like domain of human PKC0, regardless of phosphorylation status.



#### Analysis of PKC0 in lymphocytes.

Human peripheral blood mononuclea cells (PBMC) were either stimulated with 10 µM PMA (Sigma, Cat. No. P8139) for 24 hours (shaded histogram) or unstimulated (open histogram). The cells were fixed (BD Cytofix™ Fixation Buffer, Cat. No. 554655) for 10 minutes, then permeabilized (BD Phosflow™ Perm Buffer III. Cat. No. 558050) on ice for at least 30 minutes, and then stained with PE Mouse anti-PKCA Lymphocytes were selected by scatter profile. The data demonstrates that the expression of PKC0 decreases when the lymphocytes are stimulated by PMA. Flow cytometry was performed on a BD FACSCalibur™ flow cytometry system.

The specificity of mAb 27/PKC0 was confirmed by western blot analysis using unconjugated antibody (Cat. No. 610089 or 610090) at 4.0 µg/ml on lysates from control (lane 1) and PMA-treated (lane 2) PBMC. PKC0 is identified as a band of 79 kDa, which decreases in intensity in the treated cells.

#### **Preparation and Storage**

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze. The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

#### **BD Biosciences**

United States    Canada    Europe    Japan    Asia Pacific    Latin America/Caribbean      877.232.8995    800.979.9408    32.53.720.550    0120.8555.90    65.6861.0633    55.11.5185.9995      For country contact information, visit bdbiosciences.com/contact    Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express	United States    Canada    Europe    Japan    Asia Pacific    Latin America/Carible      877.232.8995    800.979.9408    32.53.720.550    0120.8555.90    65.6861.0633    55.11.5185.9995      For country contact information, visit bdbiosciences.com/contact    Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in vioif any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product. Any use of this product the than the permitted use without the expressional product on the transfer than the permitted use without the expression of an other product. Any use of this product of the than the permitted use without the expression of the product on the pro	bdbiosciences.com								
877.232.8995 800.979.9408 32.53.720.550 0120.8555.90 65.6861.0633 55.11.5185.9995 For country contact information, visit bdbiosciences.com/contact Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express evolutions and the force Division of the province the information of the product or use of the permitted use without the express	877.232.8995 800.979.9408 32.53.720.550 0120.8555.90 65.6861.0633 55.11.5185.9995 For country contact information, visit bdbiosciences.com/contact Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in vi of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express	United States	United States Canada Europe Japan Asia Pacific Latin America/Caribbean							
For country contact information, visit bdbiosciences.com/contact Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of feator. Division and Company in citation problement	For country contact information, visit bdbiosciences.com/contact Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in vio of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express	877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995			
Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of leacton. Division and Company in the product product and the permitted use without the express product or the product. Purchase the product of the product of the permitted use without the express product or product. Purchase the product of the product of the product of the permitted use without the express product product. Purchase the product of the product of the product of the product of the permitted use without the express product product. Purchase the product of the product of the permitted use without the express product of the product of the permitted use without the express product of the product of the product of the permitted permitted permitted use without the express product of the permitted p	Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in vi of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express	For country contact information, visit bdbiosciences.com/contact								
	written authorization of Porton, Dickinson and Company is stictly prohibited									

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD



### **Application Notes**

A	ppincation			
	Intracellular staining (flow cytometry)	Routinely Tested		

### **Recommended Assay Procedure:**

Either BD Cytofix<sup>TM</sup> Fixation Buffer or BD Phosflow<sup>TM</sup> Fix Buffer I may be used for cell fixation. Any of the three BD Phosflow<sup>TM</sup> permeabilization buffers may be used.

#### **Suggested Companion Products**

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
557870	Fix Buffer I	250 ml	(none)
557885	Perm/Wash Buffer I	125 ml	(none)
558052	Perm Buffer II	125 ml	(none)
558050	Perm Buffer III	125 ml	(none)

#### **Product Notices**

- This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^{-6}$  cells in a 100-µl experimental 1. sample (a test).
- Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols. 2.
- For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at 3. www.bdbiosciences.com/colors.
- Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before 4. discarding to avoid accumulation of potentially explosive deposits in plumbing.
- 5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

#### References

Manicassamy S, Gupta S, Sun Z. Selective function of PKC-0 in T cells. Cell Mol Immunol. 2006; 3(4):263-270. (Biology) Nishizuka Y. The molecular heterogeneity of protein kinase C and its implications for cellular regulation. Nature. 1988; 334(6184):661-665. (Biology) Parker PJ, Murray-Rust J. PKC at a glance. J Cell Sci. 2004; 117:131-132. (Biology) Soderling TR. Protein kinases. Regulation by autoinhibitory domains. J Biol Chem. 1990; 265(4):1823-1826. (Biology)

**BD Biosciences** 

bdbiosciences.com United States 
 Canada
 Europe
 Japan

 800.979.9408
 32.53.720.550
 0120.8555.90
877.232.8995

For country contact information, visit bdbiosciences.com/contact

Latin America/Caribbean 65.6861.0633 55.11.5185.9995



Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in violation Conditions: The information disclosed herein is not to be constructed as a recommendation to use the above product in violatio of any patents. BD Biosciences will not be help responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is stictly prohibited. For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale. Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD

Asia Pacific