Technical Data Sheet

Purified Mouse Anti-Human PKCθ

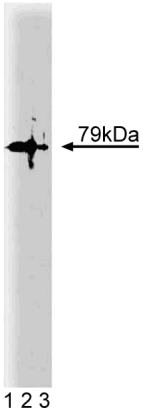
Product Information

Material Number:	**610089**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	27/PKCθ
Immunogen:	Human PKCθ aa. 21-217
Isotype:	Mouse IgG2a, κ
Reactivity:	QC Testing: Human
Target MW:	79 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

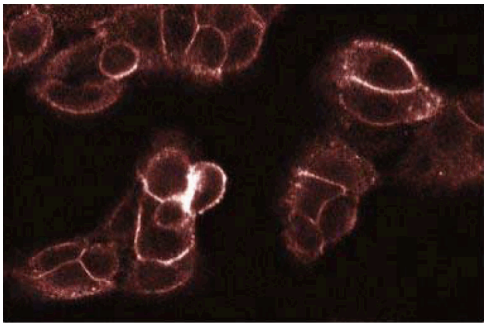
Description

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 the PKC activators Ca2+, phospholipid, diacylglycerol, or phorbol ester. However, the novel PKC (nPKC) subfamily members (δ, ε, η, and θ isoforms) and the atypical PKC (aPKC) subfamily members (ζ, ι, 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 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. PKCθ transcripts are expressed in most tissues with the highest levels being found in hematopoietic tissues and cell lines, including T cells and thymocytes. PKCθ mRNA is readily detectable in skeletal muscle, lung and brain. However, PKCθ 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.

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 PKCθ on a Jurkat lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti-human PKCθ antibody.*



Immunofluorescence staining of A431 cells.

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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

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunoprecipitation	Tested During Development
Immunohistochemistry-formalin (antigen retrieval required)	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
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

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Nishizuka Y. The molecular heterogeneity of protein kinase C and its implications for cellular regulation. *Nature.* 1988; 334(6184):661-665.(Biology)

Soderling TR. Protein kinases. Regulation by autoinhibitory domains. *J Biol Chem.* 1990; 265(4):1823-1826.(Biology)

Villalba M, Bi K, Rodriguez F, Tanaka Y, Schoenberger S, Altman A. Vav1/Rac-dependent actin cytoskeleton reorganization is required for lipid raft clustering in T cells. *J Cell Biol.* 2001; 155(3):331-338.(Biology: Immunofluorescence)

Villalba M, Coudronniere N, Deckert M, Teixeiro E, Mas P, Altman A. A novel functional interaction between Vav and PKCtheta is required for TCR-induced T cell activation. *Immunity.* 2000; 12(2):151-160.(Biology: Immunoprecipitation, In vitro kinase assay, Western blot)