Technical Data Sheet

Purified Mouse Anti-PKCθ (pT538)

Product Information

Material Number:	**612735**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	19/PKC
Immunogen:	Phosphorylated Human PKCθ Peptide
Isotype:	Mouse IgG2a
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. Three categories exist, conventional PKC (cPKC), novel PKC (nPKC), and atypical PKC (aPKC). These proteins are products of multiple genes and alternative splicing and have different modes of activation. For example, cPKC's members (α, βI, βII, and γ) are calcium activated, phospholipid-dependent serine/threonine specific enzymes which can also be activated by phorbol esters. However, the novel PKC (nPKC) subfamily members (δ , ε, η, and θ isoforms) and the atypical PKC (PKC) subfamily members (ζ , í , and λ isoforms) are Ca[2+] independent. The aPKC members are unique in that their activity is independent of diacylglycerols and phorbol esters. 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 RNA 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 suggests that it may have a role in growth and differentiation processes of these cells.

The 9/PKC monoclonal antibody recognizes the phosphorylated threonine 538 (pT538) of human PKCθ.

Jurkat cells were treated with Anti-CD3 and were then either left untreated (lane 1) or treated (lane 2) with 200 U/ml of lambda phosphatase for 1 hr at 37°C. *The top panel was probed with anti-PKCθ (Cat. No. 610089) and the bottom panel was probed with anti-PKCθ (pT538).*

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
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development

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Suggested Companion Products

Catalog Number	Name	Size	Clone
610089	Purified Mouse Anti-Human PKCθ	50 µg	27/PKCθ

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

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)