Technical Data Sheet

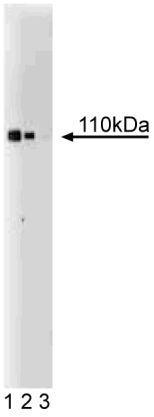
Purified Mouse Anti-DGKθ

Product Information

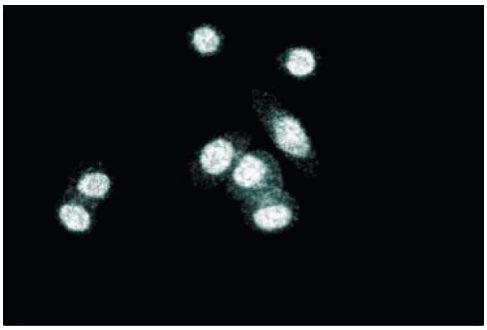
Material Number:	**610930**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	24/DGKtheta
Immunogen:	Human DGKθ aa. 677-883
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Human, Mouse, Rabbit
Target MW:	110 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The protein kinase C pathway is a major signal transduction system that is activated upon stimulation of transmembrane receptors by hormones, neurotransmitters, and growth factors. Key mediators in this pathway are increased intracellular free Ca2+ levels and formation of diacylglycerol (DAG). DGKθ (**d**iacyl**g**lycerol **k**inase **θ**) restricts PKC activation through the phosphorylation of DAG molecules that contain an unsaturated fatty acid at the sn-2 position to produce phosphatidic acid (PA). DGKθ contains several regions that are found in signaling molecules where they function in lipid-protein and protein-protein interactions. A C-terminal catalytic domain, three CRDs (cysteine rich domains), a PH domain, and an N-terminal proline/glycine rich domain are structural features of DGKθ. Six potential PKC phosphorylation sites lie between CRD3 and the PH domain. Cell-specific expression differentiate multiple isoforms of DGK. DGKθ is expressed primarily within the cerebellar cortex and hippocampus of the brain, but is also found in the small intestine and liver. The presence of the RA (Ras-associating) domain suggests that DGKθ may mediate activity of the Ras-like small GTP binding proteins.



Western blot analysis of DGKθ on rat brain lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of anti-DGKθ.*



Immunofluorescent staining of SK-BR-3 cells.

Preparation and Storage

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

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunohistochemistry	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
611463	Rat Cerebrum Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	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

Bregoli L, Baldassare JJ, Raben DM. Nuclear diacylglycerol kinase-theta is activated in response to alpha-thrombin. *J Biol Chem.* 2001; 276(26):23288-23295. (Clone-specific: Immunofluorescence, Western blot)

Houssa B, Schaap D, van der Wal J, et al. Cloning of a novel human diacylglycerol kinase (DGKtheta) containing three cysteine-rich domains, a proline-rich region, and a pleckstrin homology domain with an overlapping Ras-associating domain. *J Biol Chem.* 1997; 272(16):10422-10428.(Biology)

Pilz A, Schaap D, Hunt D, Fitzgibbon J. Chromosomal localization of three mouse diacylglycerol kinase (DAGK) genes: genes sharing sequence homology to the Drosophila retinal degeneration A (rdgA) gene. *Genomics.* 1995; 26(3):599-601.(Biology)