Technical Data Sheet

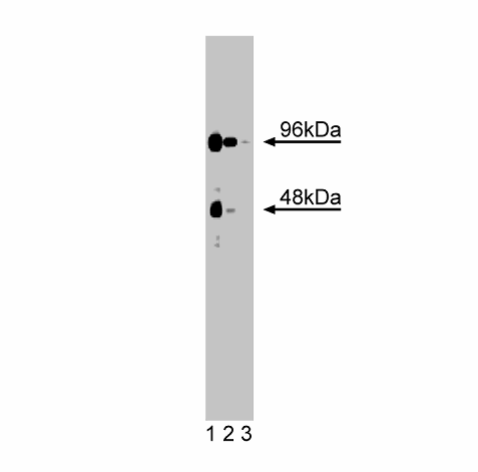
Purified Mouse Anti-CaM Kinase VI

Product Information

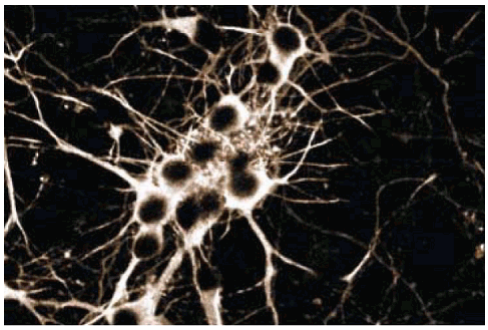
Material Number:	**611736**
Alternate Name:	CPG16; Candidate Plasticity-related Gene 16
Size:	50 µg
Concentration:	250 µg/ml
Clone:	5/CaM Kinase VI
Immunogen:	Rat CPG16 aa. 330-424
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Mouse
Target MW:	96 & 48 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Central nervous system plasticity is essential to the processes of learning and memory. Plasticity involves changes in synaptic transmission efficiency and results from the activation of excitatory glutamate receptors. Analysis of changes in gene expression during kainate-induced hippocampal plasticity led to the identification of a Candidate Plasticity-related Gene (CPG16). CPG16 protein is a Ser/Thr protein kinase that is also closely related to the Ca2+/calmodulin- dependent protein kinases (CaM kinases). CPG16 is 98% identical to the C-terminal region of the product of the *KIAA0369* gene, a 96 kDa protein whose N-terminal region strongly resembles the neural protein, doublecortin. In resting cells, Cam Kinase VI (CPG16) is found in the cytoplasm and has relatively low level of phosphorylation activity. However, treatment of cells with cAMP-elevating agents (forskolin, 8-bromo-cAMP) significantly enhances this phosphorylation activity and induces a partial shift of Cam Kinase VI (CPG16) into the nucleus. In addition, overexpression of Cam Kinase VI (CPG16) inhibits cAMP-stimulated CREB activity. Thus, Cam Kinase VI (CPG16) is Ser/Thr protein kinase that is thought to be a downstream negative regulator of cAMP/PKA-induced transcription.



Western blot analysis of CaM Kinase VI on a rat cerebrum lysate. *Lane 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the mouse anti-CaM Kinase VI antibody. CaM Kinase VI (CPG16) has been reported to be a splice variant of DCAMKL1 (Doublecortin-like and CAM kinase-like 1). The immunogen used to generate this antibody has been reported to be shared between the two variants with CaM Kinase VI (CPG16) being detectable at 48 kD.*



Immunofluorescence staining of cortical neurons.

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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

Recommended Assay Procedure:

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

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

Gleeson JG, Allen KM, Fox JW, et al. Doublecortin, a brain-specific gene mutated in human X-linked lissencephaly and double cortex syndrome, encodes a putative signaling protein. *Cell.* 1998; 92(1):63-72.(Biology)

Hevroni D, Rattner A, Bundman M. Hippocampal plasticity involves extensive gene induction and multiple cellular mechanisms. *J Mol Neurosci.* 1998; 10(2):75-98.(Biology)

Silverman MA, Benard O, Jaaro H, Rattner A, Citri Y, Seger R. CPG16, a novel protein serine/threonine kinase downstream of cAMP-dependent protein kinase. *J Biol Chem.* 1999; 274(5):2631-2636.(Biology)