Technical Data Sheet

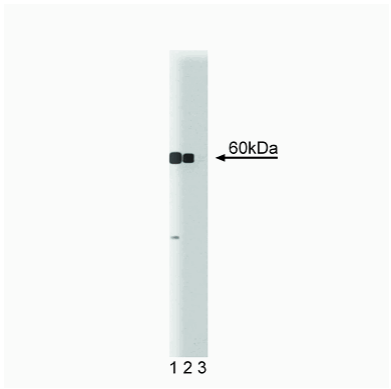
Purified Mouse Anti-CaM Kinase IV

Product Information

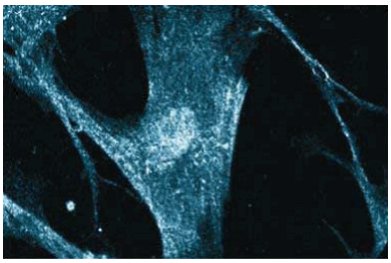
Material Number:	**610276**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	26/CaM Kinase IV
Immunogen:	Human CaM Kinase IV aa. 1-241
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Target MW:	60 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

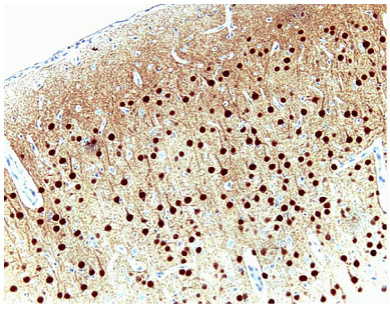
CaM-kinase IV (Ca2+/calmodulin-dependent protein kinase IV, also described as CaM-kinase Gr) is activated through the binding of Ca2+/CaM and by phosphorylation. This kinase has high sequence homologies with the catalytic and regulatory domains of CaM-kinase II. CaM-kinase IV is a monomer which is highly expressed in cerebellum, thymus, and testis. Its subcellular distrubution includes localization in both the synaptic regions of the molecular layer of the cerebellum, and the nuclei of cerebellar granule cells. CaM-kinase IV has an autoinhibitory domain within residues 305-321 that can suppress kinase activity in the absence of Ca2+/CaM. This type of domain is common in many other CaM-dependent kinases and phosphatases. CaM-kinase IV does not appear to be significantly activated by autophosphorylation, but it can be activated approximately 5-10-fold when phosphorylated by CaM-kinase IV kinase.



Western blot analysis of CaM Kinase IV on Jurkat lysate. *Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of anti-CaM Kinase IV.*



Immunofluorescent staining on WI38 cells.



Pyrimidal cells in rat cortex, formalin-fixed embedded tissue, no pre-treatment, 20X

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
Immunohistochemistry	Tested During Development
Immunoprecipitation	Tested During Development

Recommended Assay Procedure:

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

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell 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

Ohmstede CA, Bland MM, Merrill BM, Sahyoun N. Relationship of genes encoding Ca2+/calmodulin-dependent protein kinase Gr and calspermin: a gene within a gene. *Proc Natl Acad Sci U S A.* 1991; 88(13):5784-5788.(Biology)

Passier R, Zeng H, Frey N, et al. CaM kinase signaling induces cardiac hypertrophy and activates the MEF2 transcription factor in vivo. *J Clin Invest.* 2000; 105(10):1395-1406.(Clone-specific: Immunoprecipitation, Western blot)

Slee EA, Adrain C, Martin SJ. Executioner caspase-3, -6, and -7 perform distinct, non-redundant roles during the demolition phase of apoptosis. *J Biol Chem.* 2001; 276(10):7320-7326.(Clone-specific: Western blot)

Wayman GA, Walters MJ, Kolibaba K, Soderling TR, Christian JL. CaM kinase IV regulates lineage commitment and survival of erythroid progenitors in a non-cell-autonomous manner. *J Cell Biol.* 2000; 151(4):811-824.(Clone-specific: Western blot)

Wei F, Qiu CS, Liauw J, et al. Calcium calmodulin-dependent protein kinase IV is required for fear memory. *Nat Neurosci.* 2002; 5(6):573-579.(Clone-specific: Immunofluorescence)