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CaMKIV Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52730

Product Information

Application	WB
Primary Accession	Q16566
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a
Calculated MW	51926

Additional Information

Gene ID	814
Other Names	Brain Ca(2) calmodulin dependent protein kinase type 4;Brain Ca(2) calmodulin dependent protein kinase type IV;Brain Ca -calmodulin dependent protein kinase type IV;Calcium / calmodulin dependent protein kinase type 4 catalytic chain;Calcium / calmodulin dependent protein kinase type IV catalytic chain; Calcium/calmodulin dependent protein kinase IV;Calcium/calmodulin dependent protein kinase type IV;Calcium/calmodulin-dependent protein kinase type IV;CAM kinase 4;CAM kinase GR;CAM kinase IV;CAM kinase-GR;CaMK 4;CAMK GR;CaMK IV;CaMK4;CaMKGR;IV;KCC4_HUMAN; MGC36771.
Dilution	WB~~1:1000
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	CAMK4
Synonyms	CAMK, CAMK-GR, CAMKIV
Function	Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK4 signaling cascade and regulates, mainly by phosphorylation, the activity of several transcription activators, such as CREB1, MEF2D, JUN and RORA, which play pivotal roles in immune response, inflammation, and memory consolidation. In the thymus, regulates the CD4(+)/CD8(+) double positive thymocytes selection threshold during T-cell

	ontogeny. In CD4 memory T-cells, is required to link T-cell antigen receptor (TCR) signaling to the production of IL2, IFNG and IL4 (through the regulation of CREB and MEF2). Regulates the differentiation and survival phases of osteoclasts and dendritic cells (DCs). Mediates DCs survival by linking TLR4 and the regulation of temporal expression of BCL2. Phosphorylates the transcription activator CREB1 on 'Ser-133' in hippocampal neuron nuclei and contribute to memory consolidation and long term potentiation (LTP) in the hippocampus. Can activate the MAP kinases MAPK1/ERK2, MAPK8/JNK1 and MAPK14/p38 and stimulate transcription through the phosphorylation of ELK1 and ATF2. Can also phosphorylate in vitro CREBBP, PRM2, MEF2A and STMN1/OP18.
Cellular Location	Cytoplasm. Nucleus. Note=Localized in hippocampal neuron nuclei. In spermatids, associated with chromatin and nuclear matrix (By similarity).
Tissue Location	Expressed in brain, thymus, CD4 T-cells, testis and epithelial ovarian cancer tissue.

Background

Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK4 signaling cascade and regulates, mainly by phosphorylation, the activity of several transcription activators, such as CREB1, MEF2D, JUN and RORA, which play pivotal roles in immune response, inflammation, and memory consolidation. In the thymus, regulates the CD4(+)/CD8(+) double positive thymocytes selection threshold during T-cell ontogeny. In CD4 memory T-cells, is required to link T-cell antigen receptor (TCR) signaling to the production of IL2, IFNG and IL4 (through the regulation of CREB and MEF2). Regulates the differentiation and survival phases of osteoclasts and dendritic cells (DCs). Mediates DCs survival by linking TLR4 and the regulation of temporal expression of BCL2. Phosphorylates the transcription activator CREB1 on 'Ser-133' in hippocampal neuron nuclei and contribute to memory consolidation and long term potentiation (LTP) in the hippocampus. Can activate the MAP kinases MAPK1/ERK2, MAPK8/JNK1 and MAPK14/p38 and stimulate transcription through the phosphorylation of ELK1 and ATF2. Can also phosphorylate in vitro CREBBP, PRM2, MEF2A and STMN1/OP18.

References

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Bland M.M.,et al.Gene 142:191-197(1994).
Mosialos G.,et al.J. Virol. 68:1697-1705(1994).
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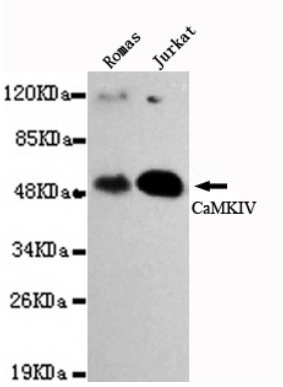
Hanissian S.H.,et al.J. Biol. Chem. 268:20055-20063(1993).

Images



Western blot detection of CaMKIV in Romas and Jurkat cell lysates using CaMKIV mouse mAb (1:1000 diluted).Predicted band size:52KDa.Observed band size:55KDa.

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