

Calcium/calmodulin-dependent protein kinase type IV Recombinant Protein | Camk4 recombinant protein

Recombinant Rat Calcium/calmodulin-dependent protein kinase type IV

CATALOG # AAA81675	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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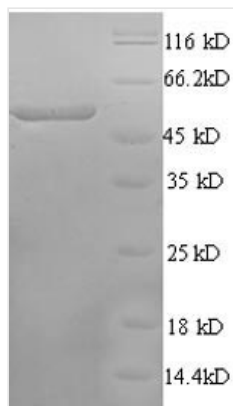
PRODUCT SYNONYMS

Calcium/calmodulin-dependent protein kinase type IV; Recombinant Rat Calcium/calmodulin-dependent protein kinase type IV; CaM kinase-GR; Calspermin; Camk4 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	1-474. Full Length
Sequence	MLKVTVPSCP SSPCSSVTSS TENLVDPYWI DGSKRDPDLS DFFEVESELGR GATSIVYRCK QKGTQKPYAL KVLKKTVDKK IVRTEIGVLL RLSHPNIIKL KEIFETPTEI SLVLELVTGG ELFDRIIVEKG YYSERDAADA VKQILEAVAY LHENGIVHRD LKPENLLYAT PAPDAPLKIA DFGLSKIVEH QVLMKTVCGT PGYCAPEILR GCAYGPEVDM WSVGIITYIL LCGFEPFYDE RGDQFMFRR I LNCEYYFISP WWDEVSLNAK DLVKKLIVLD PKKRLTTFQA LQHPWVTGKA ANFVHMDTAQ KKLQEFNARR KLKAAVKAVV ASSRLGSASS SHTNIQESNK ASSEAQPAQD GKDKTDPLEN KMQAGDHEAA KAAADETMKL QSEEEVEEEG VKEEEEEEEE EEETSRMVPQ EPEDRLETDD QEMKRNSEET LKSVEEEMDP KAEAAAAAVG LGVPPQQDAI LPEY
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for Camk4 recombinant protein	Isoform 1: 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 mory consolidation. In the thymus, regulates the CD4+/CD8+ double positive thymocytes selection threshold during T-cell ontogeny. In CD4 mory 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 tporal expression of BCL2. Phosphorylates the transcription activator CREB1 on 'Ser-133' in hippocampal neuron nuclei and contribute to mory 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. Isoform 2: Heat-stable, acidic, calmodulin-binding protein.
References	Relationship of genes encoding Ca2+/calmodulin-dependent protein kinase Gr and calspermin a gene within a gene.Ohmstede C.-A., Bland M.M., Merrill B.M., Sahyoun N.Proc. Natl. Acad. Sci. U.S.A. 88:5784-5788(1991) A novel Ca2+/calmodulin-dependent protein kinase and a male germ cell-specific calmodulin-binding protein are derived from the same gene.Means A.R., Cruzalegui F., Lemagueresse B., Needleman D.S., Slaughter G.R., Ono T.Mol. Cell. Biol. 11:3960-3971(1991) Cloning and sequencing of a gene encoding the beta polypeptide of Ca2+/calmodulin-dependent protein kinase IV and its expression confined to the mature cerebellar granule cells.Sakagami H., Kondo H.Brain Res. Mol. Brain Res. 19:215-218(1993) Organization and analysis of the complete rat calmodulin-dependent protein kinase IV gene.Sun Z., Means R.L., Le;Magueresse B., Means A.R.J. Biol. Chem. 270:29507-29514(1995) Ca2+/calmodulin-dependent protein kinase enriched in cerebellar granule cells. Identification of a novel neuronal calmodulin-dependent protein kinase.Ohmstede C.-A., Jenson K.F., Sahyoun N.J. Biol. Chem. 264:5866-5875(1989) Molecular cloning sequence and distribution of rat calspermin, a high affinity calmodulin-binding protein.Ono T., Slaughter G.R., Cook R.G., Means A.R.J. Biol. Chem. 264:2081-2087(1989) CREB a Ca(2+) -regulated transcription factor phosphorylated by calmodulin-dependent kinases.Sheng M., Thompson M.A., Greenberg M.E.Science 252:1427-1430(1991) Activation mechanisms for Ca2+/calmodulin-dependent protein kinase IV. Identification of a brain CaM-kinase IV kinase.Tokumitsu H., Brickey D.A., Glod J., Hidaka H., Sikela J., Soderling T.R.J. Biol. Chem. 269:28640-28647(1994) Calcium/calmodulin-dependent protein kinase types II and IV differentially regulate CREB-dependent gene expression.Matthews R.P., Guthrie C.R., Wailes L.M., Zhao X., Means A.R., McKnight G.S.Mol. Cell. Biol. 14:6107-6116(1994) Full activation of brain calmodulin-dependent protein kinase IV requires phosphorylation of the amino-terminal serine-rich region by calmodulin-dependent protein kinase IV kinase.Okuno S., Kitani T., Fujisawa H.J. Biochem. 117:686-690(1995) Phosphorylation and activation of Ca(2+) -calmodulin-dependent protein kinase IV by Ca(2+) -calmodulin-dependent protein kinase Ia kinase. Phosphorylation of threonine 196 is essential for activation.Selbert M.A., Anderson K.A., Huang Q.H., Goldstein E.G., Means A.R., Edelman A.M.J. Biol. Chem. 270:17616-17621(1995) Regulation of activating transcription factor-1 and the cAMP response element-binding protein by Ca2+/calmodulin-dependent protein kinases type I, II, and IV.Sun P., Lou L., Maurer R.A.J. Biol. Chem. 271:3066-3073(1996) Inactivation of calmodulin-dependent protein kinase IV by autophosphorylation of serine 332 within the putative calmodulin-binding domain.Watanabe S., Okuno S., Kitani T., Fujisawa H.J. Biol. Chem. 271:6903-6910(1996) Multiple Ca(2+) -calmodulin-dependent protein kinase kinases from rat brain. Purification, regulation by Ca(2+) -calmodulin, and partial amino acid sequence.Edelman A.M., Mitchelhill K.I., Selbert M.A., Anderson K.A., Hook S.S., Stapleton D., Goldstein E.G., Means A.R., Kemp B.E.J. Biol. Chem. 271:10806-10810(1996) Components of a calmodulin-dependent protein kinase cascade. Molecular cloning, functional characterization and cellular localization of Ca2+/calmodulin-dependent protein kinase kinase beta.Anderson K.A., Means R.L., Huang Q.-H., Kemp B.E., Goldstein E.G., Selbert M.A., Edelman A.M., Fremeau R.T., Means A.R.J. Biol. Chem. 273:31880-31889(1998) A signaling complex of Ca2+-calmodulin-dependent protein kinase IV and protein phosphatase 2A.Westphal R.S., Anderson K.A., Means A.R., Wadzinski B.E.Science 280:1258-1261(1998) Substrate recognition by Ca2+/Calmodulin-dependent protein kinase kinase. Role of the arg-pro-rich insert domain.Tokumitsu H., Takahashi N., Eto K., Yano S., Soderling T.R., Muramatsu M.-A.J. Biol. Chem. 274:15803-15810(1999) Catalytic activity is required for calcium/calmodulin-dependent protein kinase IV to enter the nucleus.Lemrow S.M., Anderson K.A., Joseph J.D., Ribar T.J., Noeldner P.K., Means A.R.J. Biol. Chem. 279:11664-11671(2004)

NCBI AND UNIPROT INFORMATION

NCBI GI #	77404384
NCBI GeneID	25050
NCBI Accession #	NP_036859.2
NCBI GenBank Nucleotide #	NM_012727.3

UniProt Accession #	P13234 ; Q63892 ; A1A5L5
Molecular Weight	57.2 kDa
NCBI Official Full Name	calcium/calmodulin-dependent protein kinase type IV
NCBI Official Synonym Full Names	calcium/calmodulin-dependent protein kinase IV
NCBI Official Symbol	Camk4
NCBI Official Synonym Symbols	Ccdpk; RDPK
NCBI Protein Information	calcium/calmodulin-dependent protein kinase type IV
UniProt Protein Name	Calcium/calmodulin-dependent protein kinase type IV
UniProt Gene Name	Camk4
UniProt Synonym Gene Names	CaMK IV
UniProt Entry Name	KCC4_RAT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://www.aaabiotech.com/camk4-recombinant-protein-e-coli/81675>