

CAMK4, Active recombinant protein
CAMK, Calcium/calmodulin-dependent protein kinase
Catalog # PBV11315r

Specification

CAMK4, Active recombinant protein - Product info

Primary Accession	Q16566
Concentration	0.1
Calculated MW	79.0 kDa KDa

CAMK4, Active recombinant protein - Additional Info

Gene ID	814
Gene Symbol	CAMK4
Other Names	
CAMK, Calcium/calmodulin-dependent protein kinase, CaM kinase-GR	

Source	Baculovirus (Sf9 insect cells)
Assay&Purity	SDS-PAGE; ≥90%
Assay2&Purity2	HPLC;
Recombinant	Yes
Format	
Liquid	

Storage

-80°C; Recombinant protein in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol).

CAMK4, Active recombinant protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

CAMK4, Active recombinant protein - Images

CAMK4, Active recombinant protein - Background

CAMK4 belongs to the serine/threonine protein kinase family and Ca(2+)/calmodulin-dependent protein kinase subfamily. This enzyme is a multifunctional serine/threonine protein kinase with limited tissue distribution. Sikela et al. identified that brain CaM kinase IV (CAMK4) appeared to be restricted to brain in the rat; interestingly, it was not detected in the brain of the newborn, but

became detectable within a few days after birth. They also raised the possibility that a defect in Camk4 may be responsible for 1 of the mutant phenotypes in the centromeric region near 2 mutations, which known to affect neurologic function and fertility (1). Wei et al. found Camk4-labeled neurons in the hippocampus, amygdala, anterior cingulate cortex, somatosensory cortex, and insular cortex (2). Kang et al. generated transgenic mice in which the expression of a dominant-negative form of Camk4 was restricted to the postnatal forebrain. In these transgenic mice, activity-induced Creb phosphorylation and Fos expression were significantly attenuated. The results indicated that neural activity-dependent CAMK4 signaling in the neuronal nucleus plays an important role in the consolidation/retention of hippocampus-dependent long-term memory (3). Wu et al. generated transgenic mice that selectively express in skeletal muscle a constitutively active form of CAMK4 and concluded that a calcium-regulated signaling pathway controls mitochondrial biogenesis in mammalian cells (4). Wei et al. studied pain and fear memory in Camk4-null mice and concluded that Camk4 is crucial in the trapping of Ca²⁺/calmodulin complexes in neuronal nuclei and in Creb phosphorylation and activation (5).

CAMK4, Active recombinant protein - References

Kitani T.,et al.J. Biochem. 115:637-640(1994).
Bland M.M.,et al.Gene 142:191-197(1994).
Mosialos G.,et al.J. Virol. 68:1697-1705(1994).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Hanissian S.H.,et al.J. Biol. Chem. 268:20055-20063(1993).