

CAMK1 beta (Mouse), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPC08

Lot No. B281-1
5 µg 0.1 µg/µl

Background:

CAMK1 β (CAMK1beta) is thought to be involved in a variety of developmental processes including development of the central nervous system (1). CAMK1 β 2, an isoform of mCAMK1 β , is mainly present in the nervous system, including brain, spinal cord, trigeminal ganglion, and retina. Within the CNS, the expression of CAMK1 β 2 is detected in the mantle zone suggesting its possible involvement in the differentiation of neurons (2).

Product Description:

Recombinant full-length mouse CAMK1 β was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. The gene accession number is NM_012040.

Gene Aliases:

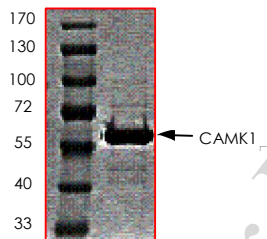
Punc; Bstk3; Camk1b; CaMK1b2; caMK1b1

Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

Purity & Molecular Weight:

The purity was determined to be >95% by densitometry. Approx. MW 64kDa.



Storage:

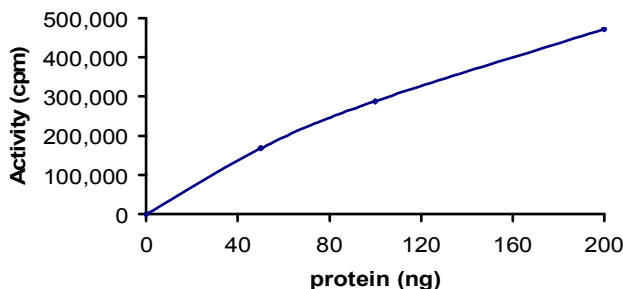
Store product at -70°C . For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

Unopened vial at -70°C , 1 year from date of shipment.

**Specific Activity:**

The specific activity was determined to be 223 nmol/min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25 μ L reaction consisting of 5 μ L of 5 X Kinase Assay Buffer, 7.5 μ L of 1 mg/ml the Substrate Solution, 2.5 μ L of 5mM CaCl₂ solution containing 0.75 mg Calmodulin, 5 μ L of diluted kinase and 5 μ L of 250 μ M ATP solution containing [γ -³²P] ATP (0.167 μ Ci/ μ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20 μ L of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

Substrate Solution:

Autocamide 2 synthetic peptide substrate (KKALRRQETVDAL-amide) diluted in distilled H₂O to a final concentration of 1 mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS, 12.5mM β -glycerol-phosphate, 25mM MgCl₂, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

- 1.Gardner,H.P. et al: Cloning, characterization, and chromosomal localization of Pnck, a Ca(2+)/calmodulin-dependent protein kinase. Genomics 63 (2), 279-288 (2000)
- 2.Ueda,T. et al: Distribution and intracellular localization of a mouse homologue of Ca2+/calmodulin-dependent protein kinase Ibeta2 in the nervous system. J. Neurochem. 73 (5), 2119-2129 (1999).

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