

CAMK1 gamma (Human), Active

Recombinant protein expressed in Sf9 cells

Cat# CY-SPC10-F

Lot No. B018-3
5 µg 0.1 µg/µl

Background:

CAMK1 γ (CAMK1gamma) or CLICK-III, a member of CAMK family, is a novel membrane-anchored neuronal Ca²⁺/calmodulin-dependent protein kinase. Full activation of CaMKI γ requires both Ca (2+)/CaM and phosphorylation by CAMKK. CAMKI γ transcripts is most abundant in neurons, with the highest levels in limited nuclei such as the central nucleus of the amygdala (CeA) and the ventromedial hypothalamus (1).

Product Description:

Recombinant human CAMK1 γ (c-terminal truncation) protein was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. The gene accession number is NM_020439.

Gene Aliases:

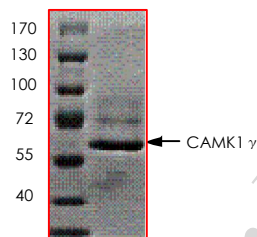
CLICKIII, VWS1, dJ272L16.1

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 >80% by densitometry. Approx. MW ~60kDa.



Storage:

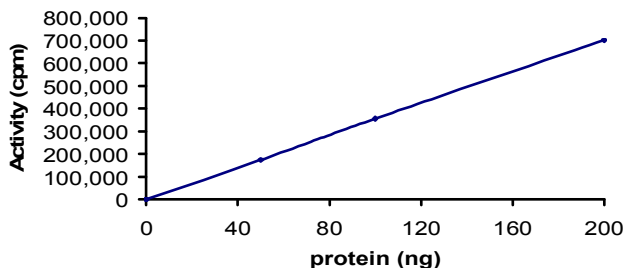
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 151 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 CaCl_2 solution containing 0.75 mg Calmodulin, 5 μ L of diluted kinase and 5 μ L of 250 μ M ATP solution containing [γ 32 P] 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:

Autocamtide 2 synthetic peptide substrate (KKALRRQETVDAL-amide) diluted in distilled H_2O to a final concentration of 1 mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS, 12.5mM β -glycerol-phosphate, 25mM MgCl_2 , 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

1. Takemoto-Kimura, S. et al: Molecular cloning and characterization of CLICK-III/CaMKIgamma, a novel membrane-anchored neuronal Ca^{2+} /calmodulin-dependent protein kinase (CaMK). J. Biol. Chem. 278 (20), 18597-18605 (2003)

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