



# CAMK1 gamma (Human), Active

## Recombinant protein expressed in Sf9 cells

Cat# CY-SPC10-P

Lot No. P168-1  
5 µg 0.1 µg/µl

### Background:

CAMK1  $\gamma$  (CLICK-III), a member of CAMK family, is a novel membrane-anchored neuronal Ca<sup>2+</sup>/calmodulin-dependent protein kinase. Full activation of CaMKI  $\gamma$  requires both Ca(2+)/CaM and phosphorylation by CAMKK. CAMK1  $\gamma$  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  $\gamma$  (1-330) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. The gene accession number is NM\_020439.

### Gene Aliases:

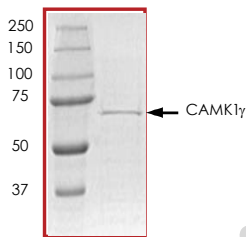
VWS1; CLICKIII; dJ272L16.1

### 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 >90% by densitometry. Approx. MW 69kDa.



### Storage:

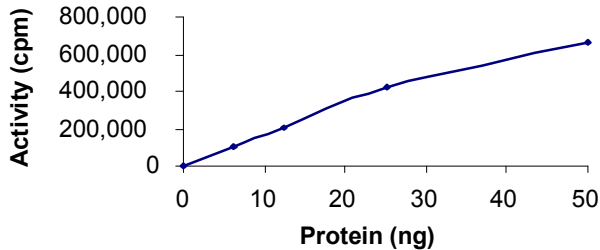
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

### Stability:

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

**Specific Activity:**

The specific activity was determined to be 788 nmol /min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25  $\mu$ L reaction consisting of 5  $\mu$ L of 5 X Kinase Assay Buffer, 7.5  $\mu$ L of 1 mg/ml the Substrate Solution, 2.5  $\mu$ L of 5mM  $\text{CaCl}_2$  solution containing 0.75 mg Calmodulin, 5  $\mu$ L of diluted kinase and 5  $\mu$ L of 250  $\mu$ M ATP solution containing [ $\gamma$   $^{32}$ P] ATP (0.167  $\mu$ Ci/ $\mu$ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20  $\mu$ 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  $\text{H}_2\text{O}$  to a final concentration of 1mg/ml.

**5 X Kinase Assay Buffer:**

25mM MOPS, pH 7. 2, 12.5mM  $\beta$ -glycerol-phosphate, 25mM  $\text{MgCl}_2$ , 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  $\text{Ca}^{2+}$ /calmodulin-dependent protein kinase (CaMK). J. Biol. Chem. 278 (20), 18597-18605 (2003)

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