



CAMK1 delta (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPC09

Lot No. B066-1
5 µg 0.1 µg/µl

Background:

CAMK1 δ (CAMK1delta) or Ca²⁺/calmodulin-dependent kinase I-like kinase (CKLiK) is activated by Ca (2+) and calmodulin and is detected in CD34+-derived neutrophils and eosinophils, as well as in mature peripheral blood granulocytes (1). CAMK1 δ exhibits Ca(2+)/CaM-dependent activity that is enhanced in vitro by phosphorylation of its Thr180 by CaM-K kinase (CaM-KK)alpha, consistent with detection of CAMK1 δ -activating activity in HeLa cells (2).

Product Description:

Recombinant full-length human CAMK1 δ was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. The gene accession number is NM_153498.

Gene Aliases:

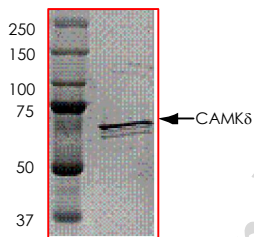
RP11-462F15.1, CKLiK, CaM-K1, CaMKID

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 68kDa.



Storage:

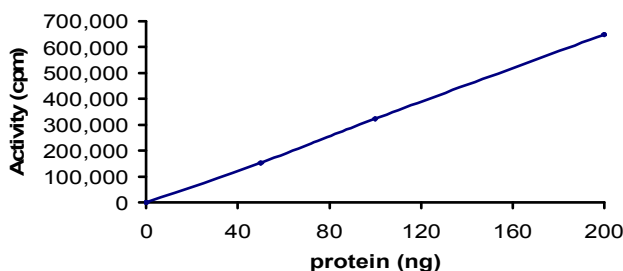
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 138 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:

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 MgCl_2 , 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

1. Verploegen, S. et al: Characterization of the role of CaMKI-like kinase (CKLiK) in human granulocyte function. Blood 106 (3), 1076-1083 (2005).
2. Ishikawa, Y. et al: Identification and characterization of novel components of a Ca^{2+} /calmodulin-dependent protein kinase cascade in HeLa cells. FEBS Lett. 550 (1-3), 57-63 (2003)

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