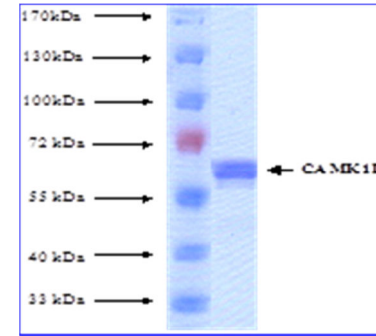


## Active CAMK1d

<b>CATALOG #:</b>	7713-5
<b>SOURCE:</b>	Sf 9 cells
<b>PURITY:</b>	1 µg of CAMK1D protein was subjected to SDS-PAGE and Coomassie blue staining. The scan of the gel showed >90% purity of the CAMK1d band product, and the band was at ~68 kDa
<b>SPECIFIC ACTIVITY:</b>	138 nmol/min/mg
<b>MOLECULAR WEIGHT:</b>	~68 kDa.
<b>FORMULATION:</b>	Recombinant proteins 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).
<b>STORAGE CONDITIONS:</b>	Store product frozen at or below -70°C. Stable for 1 year at -70°C as undiluted stock. Aliquot to avoid repeated thawing and freezing.

**BACKGROUND DESCRIPTION:** Calcium/calmodulin-dependent protein kinase ID (CAMK1D), or a novel Ca<sup>2+</sup>/calmodulin-dependent kinase I-like kinase (CKLiK), showed kinase activity and that the activity was enhanced by Ca(2+) and calmodulin. Using a novel antibody generated against the C-terminus of CKLiK, CKLiK was detected in CD34+-derived neutrophils and eosinophils, as well as in mature peripheral blood granulocytes. Activation of human granulocytes by N-formyl-methionyl-leucyl-phenylalanine (fMLP) and platelet-activating factor (PAF), but not the phorbol ester PMA (phorbol 12-myristate-13-acetate), resulted in induction of CKLiK activity, in parallel with a rise of intracellular [Ca<sup>2+</sup>]. Furthermore, fMLP-induced neutrophil migration on albumin-coated surfaces was perturbed, as well as beta2-integrin-mediated adhesion. These findings suggest a critical role for CKLiK in modulating chemoattractant-induced functional responses in human granulocytes. Also, CAMK1D exhibits Ca (2+)/CaM-dependent activity that is enhanced (approximately 30-fold) in vitro by phosphorylation of its Thr180 by CaM-K kinase (CaM-KK)alpha, consistent with detection of CAMK1D-activating activity in HeLa cells. Transiently expressed CAMK1D exhibited enhanced protein kinase activity in HeLa cells without ionomycin stimulation. This sustained activation of CAMK1D was completely abolished by Thr180Ala mutation and inhibited by CaM-KK inhibitor, STO-609, indicating a functional CaM-KK/ CAMK1D cascade in HeLa cells.

**ACTIVITY:** 138 nmol phosphate incorporated into Autocamide 2 per minute per mg protein at 30°C for 15 minutes using a final concentration of 50 µM ATP (0.83 µCi/assay).



CAMK1d Protein

### RELATED PRODUCTS:

- CAMKII Antibody (Cat. No. 3383-100)
- Active CAMK1b (Cat. No. 7729-5)
- Active CAMK1G (Cat. No. 7736-5)
- Active CAMK4 (Cat. No. 7740-5)

**FOR RESEARCH USE ONLY! Not to be used in humans.**