

Active Recombinant Rat CaMKII protein

Cat. No. CaMKII-302R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat CaMKII was expressed in Insect cells.
Species	Rat
Source	Insect Cells
Description	Calmodulin-Dependent Protein Kinase II (CaMKII) is a serine/threonine kinase. It is a Ca ²⁺ /calmodulin-dependent, truncated monomer (1-325 amino acid residues) of the α subunit. Autophosphorylation of threonine 286 in the presence of Ca ²⁺ and calmodulin activates CaMKII and produces substantial Ca ²⁺ /calmodulin-independent activity.
Bio-activity	5,000,000 units/mg
Purity	CaMKII has been purified to >95% homogeneity as determined by SDS-PAGE and Coomassie Blue staining.
Unit Definition	One unit is defined as the amount of activated CaMKII required to catalyze the transfer of 1 pmol of phosphate from ATP(200mM) to Autocamtide-2 (CaMKII Peptide Substrate), KKALRRQETVDAL (50 μ M), in 1 minute at 30 centigrade in a total reaction volume of 30 μ
Notes	Optimal incubation times and enzyme concentrations must be determined empirically for each particular substrate.If the objective is to measure enzyme activity using gamma-labeled ATP, it is best to use 100-200 μ M ATP in order to have higher

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specific activity of gamma-labeled ATP (100-500 cpm/pmol). Also, an excess of substrate should be used, and the level of phosphorylation should not exceed 10% for determination of the initial rate. To phosphorylate a protein or peptide substrate to completion, the ATP concentration should be about 5-fold over the limited substrate concentration. Higher enzyme concentration and prolonged incubation times should be employed (4). Apparent K_m values of ATP for most protein kinases are below 100 μM . If the source of protein to be phosphorylated is a crude extract of cells or tissue, it is very important to include the appropriate protease and protein phosphatase inhibitors in the lysis buffer and to use shorter incubation time for phosphorylation.

Stability

Heat Inactivation: 65 centigrade for 20 min

StorageStore product at -70 centigrade. Avoid repeated freeze/thaw cycles. Tel: 1-631-559-9269 1-516-512-3133 Email: info@creative-biomart.com  Fax: 1-631-938-8127 45-1 Ramsey Road, Shirley, NY 11967, USA