

Human CAMK1 / CaMKI-alpha Protein



Sino Biological
Biological Solution Specialist

Catalog Number: 11932-HNCE

General Information

Gene Name Synonym:

CAMKI

Protein Construction:

A DNA sequence encoding the human CAMK1 (NP_003647.1) (Leu 2-Leu 370) was expressed and purified, with two additional amino acids (Gly & Pro) at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Bio-activity:

The specific activity was determined to be >70 nmol/min/mg using Autocamide-2 synthetic peptide (KKALRRQETVDAL-amide) as substrate.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gly

Molecular Mass:

The recombinant human CAMK1 comprises 371 amino acids and has a predicted molecular mass of 41.5 kDa. The apparent molecular mass of the protein is approximately 42 kDa in SDS-PAGE under reducing conditions as predicted.

Formulation:

Supplied as sterile 50mM Tris, 150mM NaCl, 10% glycerol, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

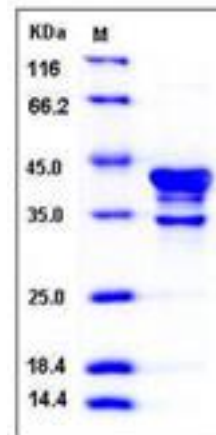
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Calcium/calmodulin-dependent protein kinase or CaM kinases are serine/threonine-specific protein kinases that are primarily regulated by the Calcium/calmodulin complex. These kinases show a memory effect on activation. CaM kinases activity can outlast the intracellular calcium transient that is needed to activate it. In neurons, this property is important for the induction of synaptic plasticity. Pharmacological inhibition of CaM kinases II blocks the induction of long-term potentiation. Upon activation, CaM kinases II phosphorylates postsynaptic glutamate receptors and changes the electrical properties of the synapse. Calcium/calmodulin-dependent protein kinase type 1D, also known as CaM kinase I delta, CaM kinase ID, CaMKI-like protein kinase, CKLIK and CAMK1D, is a member of the protein kinase superfamily and CaMK subfamily. It contains one protein kinase domain. CAMK1D is broadly expressed. It is highly and mostly expressed in polymorphonuclear leukocytes (neutrophilic and eosinophilic granulocytes) while little or no expression is observed in monocytes and lymphocytes. Engineered overexpression of CAMK1D in non-tumorigenic breast epithelial cells led to increased cell proliferation, and molecular and phenotypic alterations indicative of epithelial-mesenchymal transition (EMT), including loss of cell-cell adhesions and increased cell migration and invasion. CAMK1D is a potential therapeutic target with particular relevance to clinically unfavorable basal-like tumors.

References

1. Lisman, J.E. et al., 1985, Proc Natl Acad Sci USA. 82 (9): 3055-7.
2. Bergamaschi, A. et al., 2008, Mol Oncol. 2 (4): 327-39.
3. White RB. et al., 2008, Physiological genomics, 33 (1): 41-9.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

For US Customer: Fax: 267-657-0217 ● Tel: 215-583-7898

Global Customer: Fax :+86-10-5862-8288 ● Tel:+86-400-890-9989 ● <http://www.sinobiological.com>