Human CAMK1D / CKLiK Protein (GST Tag)

Catalog Number: **10728-H09B**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CaM-K1; CaMKID; CKLiK

Protein Construction:

A DNA sequence encoding the human CAMK1D (NP_705718.1) (Met 1-Lys 385) was fused with the GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 80 % as determined by SDS-PAGE

Bio Activity:

The specific activity was determined to be 70 nmol/min/mg using Autocamtide-2 synthetic peptide (KKALRRQETVDAL-amide) as substrate (see Activity Assay Protocol)

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

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

Predicted N terminal: Met

Molecular Mass:

The recombinant human CAMK1D/GST chimera consists of 610 amino acids and predicts a molecular mass of 69 kDa. It migrates as an approximately 60 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 50mM Tris, 100mM NaCl, 0.5mM Reduced Glutathione, pH 8.0

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:

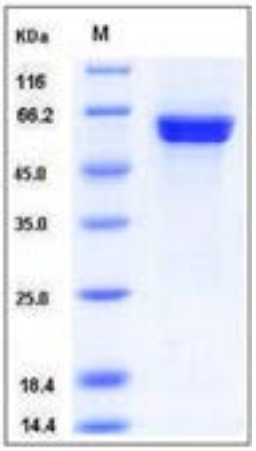
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Calcium/calmodulin-dependent protein kinase orCaM kinases are serine/threonine-specific protein kinasesthat 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. Inneurons, this property is important for the induction of synaptic plasticity. Pharmacological inhibition of CaM kinases II blocks the induction oflong-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 theprotein kinase superfamily and CaMK subfamily. It contains oneprotein 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, JE. 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.