Human CAMK2A / CAMKA Protein (GST Tag)

Catalog Number: **10648-H09B**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CAMKA

Protein Construction:

A DNA sequence encoding the human CAMK2A isoform 2 (NP_741960.1) (Met 1-His 478) was fused with the GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Bio Activity:

The specific activity was determined to be 160 nmol/min/mg using Autocamtide-2 synthetic peptide (KKALRRQETVDAL-amide) as substrate.

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 CAMK2A/GST chimera consists of 703 amino acids and predicts a molecular mass of 80.3 kDa. It migrates as an approximately 80 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 50mM Tris, 100mM NaCl, 0.5mM PMSF, 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:

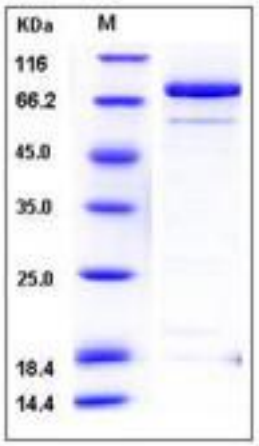
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Ca2+/calmodulin-dependent protein kinase2A (CAMK2A) belongs to the serine/threonine protein kinase family and, together with other 28 different isoforms, belongs to the Ca2+/ calmodulin-dependent protein kinase subfamily. CaM kinase Ⅱ is thought to be an important mediator of learning and memory and is also necessary for Ca2+ homeostasis and reuptake in cardiomyocytes chloride transport in epithelia, positive T-cell selection, and CD8 T-cell activation. CAMKIIA is one of the major forms of CAMKII. It has been found to play a critical role in sustaining activation of CAMKII at the postsynaptic density. Studies have found that knockout mice without CAMKIIA demonstrate a low frequency of LTP. Additionally, these mice do not form persistent, stable place cells in the hippocampus.

References

1.Lin CR, *et al.* (1987). Molecular cloning of a brain-specific calcium/calmodulin-dependent protein kinase. Proc Natl Acad Sci U S A. 84 (16): 5962-6. 2.Walikonis RS, *et al.* (2001) Densin-180 forms a ternary complex with the (alpha)-subunit of Ca2+/calmodulin-dependent protein kinase II and (alpha)-actinin. J Neurosci. 21 (2): 423-33. 3.Gardoni F, *et al.* (2003) CaMKII-dependent phosphorylation regulates SAP97/NR2A interaction. J Biol Chem. 278 (45): 44745-52.