

Human CDK4 / CMM3 Protein (GST Tag)

Catalog Number: 10732-H09B



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CMM3; PSK-J3

Protein Construction:

A DNA sequence encoding the human CDK4 (NP_000066.1) (Met 1-Glu 303) 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:

No Kinase Activity

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 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human CDK4/GST chimera consists of 528 amino acids and predicts a molecular mass of 60 kDa. It migrates as an approximately 55 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, 10% gly, 0.5mM PMSF, 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:

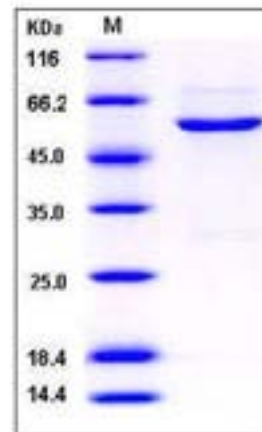
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

CDK4 is a member of the Ser/Thr protein kinase family. It is highly similar to the gene products of *S. cerevisiae* cdc28 and *S. pombe* cdc2. It is a catalytic subunit of the protein kinase complex that is important for cell cycle G1 phase progression. The activity of CDK4 is restricted to the G1-S phase, which is controlled by the regulatory subunits D-type cyclins and CDK inhibitor p16(INK4a). CDK4 was shown to be responsible for the phosphorylation of retinoblastoma gene product. CDK4 is the ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit members of the retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G(1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complexes and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. CDK4 has been shown to be mutated in some types of cancer, whilst a chromosomal rearrangement can lead to Cdk6 overexpression in lymphoma, leukemia and melanoma.

References

1. Stepanova L, *et al.* (1996) Mammalian p50Cdc37 is a protein kinase-targeting subunit of Hsp90 that binds and stabilizes Cdk4. *Genes Dev.* 10(12):1491-502.
2. Lamphere L, *et al.* (1997) Interaction between Cdc37 and Cdk4 in human cells. *Oncogene.* 14(16): 1999-2004.
3. Dai K, *et al.* (1996) Physical interaction of mammalian CDC37 with CDK4. *J Biol Chem.* 271(36): 22030-4.

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