

Recombinant Human CDK4 Protein (GST Tag)

Catalog No. PKSH031455

Note: Centrifuge before opening to ensure complete recovery of vial contents.

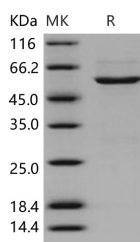
Description

Synonyms	CMM3;PSK-J3
Species	Human
Expression Host	Baculovirus-Insect Cells
Sequence	Met 1-Glu 303
Accession	NP_000066.1
Calculated Molecular Weight	60.0 kDa
Observed molecular weight	55 kDa
Tag	N-GST
Bioactivity	Not validated for activity

Properties

Purity	> 80 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per µg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 50mM Tris, 100mM NaCl, 10% glycerol, 0.5mM PMSF, pH 8.0 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 80 % as determined by reducing SDS-PAGE.

Background

CDK4 is a member of the Ser/Thr protein kinase family. It is highly similar to the gene products of *S. cerevisiae* cdc28

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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.