

CHK1 Checkpoint Homolog (S. pombe)

Cat. No. CHEK1-1125H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant human CHEK1 was expressed by baculovirus in Sf9 insect cells.
Species	Human
Source	Sf9 Cells
Description	CHEK1 is a 56 kd serine/threonine protein kinase that was originally identified in fission yeast to play a role in activation of the DNA damage checkpoint in the G2 phase of the cell cycle. CHEK1 appears to function downstream of several of the known fission yeast checkpoint gene products, including that encoded by rad3+, a gene with sequence similarity to the ATM gene mutated in patients with ataxia telangiectasia. In vitro, CHEK1 binds to and phosphorylates the dual-specificity protein phosphatases Cdc25A, Cdc25B, and Cdc25C, which control cell cycle transitions by dephosphorylating cyclin-dependent kinases.
Biological Activity	369 nmol phosphate incorporated into CHKtide per minute per mg protein at 30°C for 15 minutes using a final concentration of 50 μ M ATP (0.83 μ Ci/assay).
Molecular Weight	82.0 kDa
Form	Recombinant protein in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 30% glycerol).
Appearance	Liquid

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Purity	≥90% by SDS-PAGE
Storage	Store product frozen at or below -70°C. Stable for 1 year at -70°C as undiluted stock. Aliquot to avoid repeated thawing and freezing.
Pathways	Activation of ATR in response to replication stress; Cell Cycle Checkpoints; Cell cycle; Chk1/Chk2(Cds1) mediated inactivation of Cyclin B:Cdk1 complex; Circadian rhythm pathway; G1/S DNA Damage Checkpoints; G2/M Checkpoints; G2/M DNA damage checkpoint; HTLV-I infection; IL-3 Signaling Pathway; Ubiquitin Mediated Degradation of Phosphorylated Cdc25A; p53 pathway; p53 signaling; p53-Independent DNA Damage Response; p53-Independent G1/S DNA damage checkpoint
GENE INFORMATION	
Gene Name	CHEK1 CHK1 checkpoint homolog (S. pombe) [Homo sapiens]
Official Symbol	CHEK1
Synonyms	CHEK1; CHK1 checkpoint homolog (S. pombe); CHK1; CHK1 (checkpoint, S.pombe) homolog; Serine/threonine-protein kinase Chk1; EC 2.7.11.1; OTTHUMP00000231300; OTTHUMP00000231301; OTTHUMP00000231306; OTTHUMP00000231307; OTTHUMP00000231309; Checkpoint, S. pombe, homolog of, 1; EC 2.7.11
Gene ID	1111
mRNA Refseq	NM_001114121
Protein Refseq	NP_001107593
MIM	603078

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UniProt ID	O14757
Chromosome Location	11q24.2
Function	BMP receptor binding; cytokine activity; growth factor activity; receptor binding

PDB rendering based on 1ia8.

