

## Chk1 Rabbit mAb

Catalog No: #52217

Package Size: #52217-1 50ul #52217-2 100ul

Orders: order@signalwayantibody.com

Support: tech@signalwayantibody.com

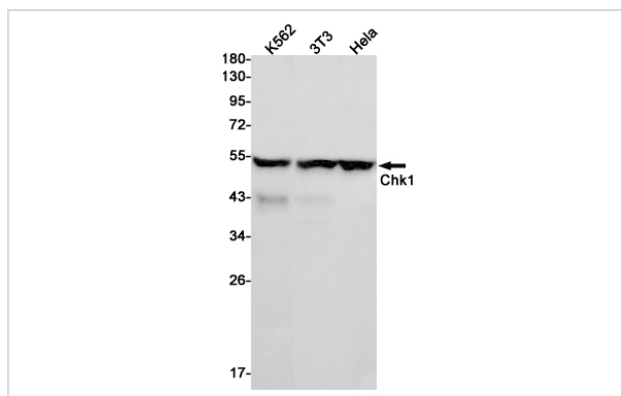
## Description

Product Name	Chk1 Rabbit mAb
Host Species	Recombinant Rabbit
Clonality	Monoclonal antibody
Clone No.	S07-4K2
Isotype	Rabbit IgG
Purification	Affinity Purified
Applications	WB
Species Reactivity	Human,Mouse,Rat
Immunogen Description	A synthetic peptide of human Chk1
Conjugates	Unconjugated
Modification	Unmodification
Other Names	Serine/threonine-protein kinase Chk1; CHEK1; CHK1
Accession No.	Swiss-Prot:O14757GeneID:1111
Uniprot	O14757
GeneID	1111
Calculated MW	Calculated MW: 54 kDa; Observed MW: 54 kDa
Concentration	0.3 mg/ml
Formulation	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40% Glycerol, 0.01% Sodium azide and 0.05% BSA
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

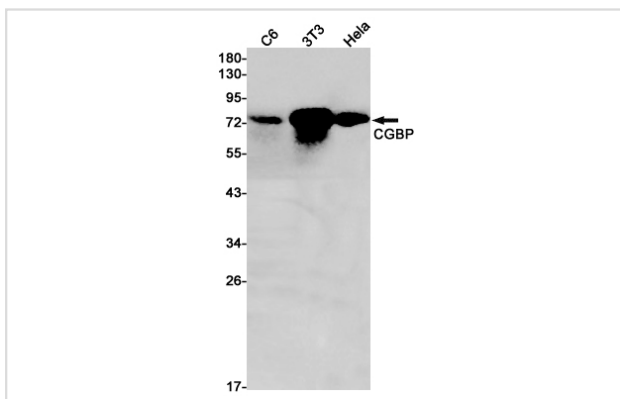
## Application Details

WB: 1/1000

## Images



Western blot detection of Chk1 in K562 cell lysates using Chk1 Rabbit mAb(1:1000 diluted).Predicted band size:54KDa.Observed band size:54KDa.



Western blot detection of Chk1 in K562,3T3,HeLa cell lysates using Chk1 Rabbit mAb(1:1000 diluted).Predicted band size:54kDa.Observed band size:54kDa.

## Background

Swiss-Prot Acc.O14757.Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest and activation of DNA repair in response to the presence of DNA damage or unreplicated DNA. May also negatively regulate cell cycle progression during unperturbed cell cycles. This regulation is achieved by a number of mechanisms that together help to preserve the integrity of the genome. Recognizes the substrate consensus sequence [R-X-X-S/T]. Binds to and phosphorylates CDC25A, CDC25B and CDC25C. Phosphorylation of CDC25A at Ser-178 and Thr-507; and phosphorylation of CDC25C at Ser-216; creates binding sites for 14-3-3 proteins which inhibit CDC25A and CDC25C. Phosphorylation of CDC25A at Ser-76, Ser-124, Ser-178, Ser-279 and Ser-293; promotes proteolysis of CDC25A. Phosphorylation of CDC25A at Ser-76; primes the protein for subsequent phosphorylation at Ser-79, Ser-82 and Ser-88; by NEK11, which is required for polyubiquitination and degradation of CDC25A. Inhibition of CDC25 leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. Also phosphorylates NEK6. Binds to and phosphorylates RAD51 at Thr-309, which promotes the release of RAD51 from BRCA2 and enhances the association of RAD51 with chromatin, thereby promoting DNA repair by homologous recombination. Phosphorylates multiple sites within the C-terminus of TP53, which promotes activation of TP53 by acetylation and promotes cell cycle arrest and suppression of cellular proliferation. Also promotes repair of DNA cross-links through phosphorylation of FANCE. Binds to and phosphorylates TLK1 at Ser-743, which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A. This may enhance chromatin assembly both in the presence or absence of DNA damage. May also play a role in replication fork maintenance through regulation of PCNA. May regulate the transcription of genes that regulate cell-cycle progression through the phosphorylation of histones. Phosphorylates histone H3.1 (to form H3T11ph), which leads to epigenetic inhibition of a subset of genes. May also phosphorylate RB1 to promote its interaction with the E2F family of transcription factors and subsequent cell cycle arrest. Isoform 2: Endogenous repressor of isoform 1, interacts with, and antagonizes CHK1 to promote the S to G2/M phase transition.

Note: This product is for in vitro research use only