

# Chk1 (Phospho Ser345) (PT0651R) PT™ Rabbit mAb

CatalogNo: YM8483 **Recombinant** 

## Key Features

### Host Species

- Rabbit

### Reactivity

- Human, Mouse, Rat

### Applications

- WB, IF, ELISA

### MW

- 56kD (Calculated)
- 56kD (Observed)

### Isotype

- IgG, Kappa

## Storage

**Storage\*** -15°C to -25°C/1 year (Do not lower than -25°C)**Formulation** PBS, 50% glycerol, 0.05% Proclin 300, 0.05% BSA

## Recommended Dilution Ratios

**WB 1:2000-1:10000****IF 1:200-1:1000****ELISA 1:5000-1:20000**

## Basic Information

**Clonality** Monoclonal**Clone Number** PT0651R

## Immunogen Information

**Immunogen** The specific immunogen used to produce this antibody is proprietary information.**Specificity** Phospho-Chk1 (S345) Antibody detects endogenous levels of Chk1 protein only when phosphorylated at S345.

## Target Information

**Gene name** CHEK1

**Protein Name** Serine/threonine-protein kinase Chk1

Organism	Gene ID	UniProt ID
Human	<a href="#">331</a> ;	<a href="#">O14757</a> ;
Mouse	<a href="#">12649</a> ;	<a href="#">O35280</a> ;
Rat	<a href="#">63879</a> ;	<a href="#">Q9R016</a> ;

**Cellular Localization**

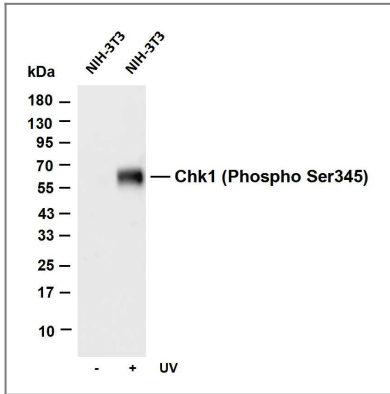
Nucleus . Chromosome . Cytoplasm . Cytoplasm, cytoskeleton, microtubule organizing center, centrosome . Nuclear export is mediated at least in part by XPO1/CRM1 (PubMed:12676962). Also localizes to the centrosome specifically during interphase, where it may protect centrosomal CDC2 kinase from inappropriate activation by cytoplasmic CDC25B (PubMed:15311285). Proteolytic cleavage at the C-terminus by SPRTN promotes removal from chromatin (PubMed:31316063). .

**Tissue specificity** Expressed in colonic crypts (at protein level) (PubMed:30389919). Ubiquitous, except peripheral blood leukocytes (PubMed:8654366).

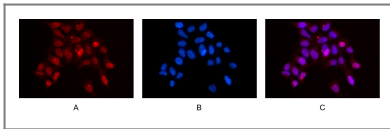
**Function**

Catalytic activity:ATP + a protein = ADP + a phosphoprotein.,Domain:The autoinhibitory region (AIR) inhibits the activity of the kinase domain.,Function:Required for checkpoint mediated cell cycle arrest in response to DNA damage or the presence of unreplicated DNA. May also negatively regulate cell cycle progression during unperturbed cell cycles. 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. Inhibition of CDC25 activity leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. Binds to and phosphorylates RAD51 at 'Thr-309', which may enhance the association of RAD51 with chromatin and promote DNA repair by homologous recombination. Binds to and phosphorylates TLK1 at 'Ser-743', which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A. This may affect chromatin assembly during S phase or DNA repair. May also phosphorylate multiple sites within the C-terminus of TP53, which promotes activation of TP53 by acetylation and enhances suppression of cellular proliferation.,PTM:Phosphorylated by ATR in a RAD17-dependent manner in response to ultraviolet irradiation and inhibition of DNA replication. Phosphorylated by ATM in response to ionizing irradiation. ATM and ATR can both phosphorylate Ser-317 and Ser-345 and this results in enhanced kinase activity. Phosphorylation at Ser-345 also increases binding to 14-3-3 proteins and promotes nuclear retention. Conversely, dephosphorylation at Ser-345 by PPM1D may contribute to exit from checkpoint mediated cell cycle arrest. May also be phosphorylated at Ser-280 by AKT1/PKB, which may promote mono and/or diubiquitination. Also phosphorylated at undefined residues during mitotic arrest, which results in decreased activity.,PTM:Ubiquitinated. Mono or diubiquitination promotes nuclear exclusion.,similarity:Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. NIM1 subfamily.,similarity:Contains 1 protein kinase domain.,subcellular location:Nuclear export is mediated at least in part by XPO1/CRM1. Also localizes to the centrosome specifically during interphase, where it may protect centrosomal CDC2 kinase from inappropriate activation by cytoplasmic CDC25B.,subunit:Interacts with BRCA1, CLSPN, PPM1D, RAD51, TIMELESS, XPO1/CRM1 and YWHAZ/14-3-3 zeta.,tissue specificity:Expressed ubiquitously with the most abundant expression in thymus, testis, small intestine and colon.,

## Validation Data



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Chk1 (Phospho Ser345) antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: NIH-3T3 Lane 2: NIH-3T3 was treated with UV for 4 hours  
Predicted band size: 56kDa Observed band size: 56kDa



Immunofluorescence analysis of HEK293. Picture A: Chk1 antibody (red).  
Picture B: DAPI (blue). Picture C: Merge of A+B

## Contact information

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