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

CatalogNo: YM8483 Recombinant

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat

Applications
- WB,ICC/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 1:500-1:2000
ICC/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

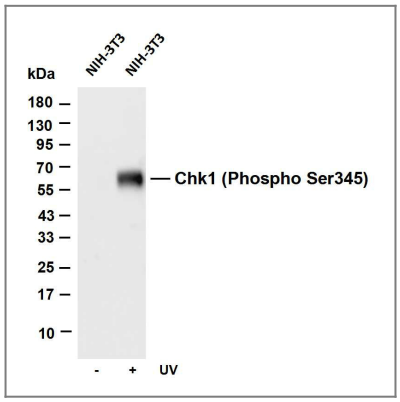
Organism	Gene ID	UniProt ID
Human	1111;	O14757;
Mouse	12649;	O35280;
Rat	140583;	Q91ZN7;

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) . .

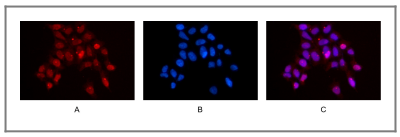
Tissue specificity Expressed ubiquitously with the most abundant expression in thymus , testis , small intestine and colon.

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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Please scan the QR code to access additional product information: **Chk1 (Phospho Ser345) (PT0651R) PT™ Rabbit mAb**

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