



Chk1 (phospho Ser301) Polyclonal Antibody

Catalog No	YP-Ab-16613
Isotype	IgG
Reactivity	Human;Mouse;Rat
Applications	WB;IF;ELISA
Gene Name	CHEK1
Immunogen	The antiserum was produced against synthesized peptide derived from human Chk1 around the phosphorylation site of Ser301. AA range:271-320
Specificity	Phospho-Chk1 (S301) Polyclonal Antibody detects endogenous levels of Chk1 protein only when phosphorylated at S301.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source	Polyclonal, Rabbit,IgG
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Dilution	Western Blot: 1/500 - 1/2000. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/40000. Not yet tested in other applications.
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	C8574;Cell cycle checkpoint kinase;Checkpoint;S. pombe;homolog of;1;Checkpoint kinase 1;Checkpoint kinase 1 homolog (S. pombe);CHEK 1;Chk1;Chk 1;Chk1;CHK1 checkpoint homolog (S. pombe);CHK1_HUMAN;EC 2.7.11.1;rad27;Serine/threonine protein kinase Chk1;Serine/threonine-protein kinase CHK1;STT3;subunit of the oligosaccharyltransferase complex;homolog A (S. cerevisiae);CHK1 checkpoint homolog;Checkpoint kinase-1
Observed Band	55kD
Calculated Molecular Weight	55kD
Cell Pathway	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

Background

The protein encoded by this gene belongs to the Ser/Thr protein kinase family. It is required for checkpoint mediated cell cycle arrest in response to DNA damage or the presence of unreplicated DNA. This protein acts to integrate signals from ATM and ATR, two cell cycle proteins involved in DNA damage responses, that also associate with chromatin in meiotic prophase I. Phosphorylation of CDC25A protein phosphatase by this protein is required for cells to delay cell cycle progression in response to double-strand DNA breaks. Several alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Oct 2011],

matters needing attention

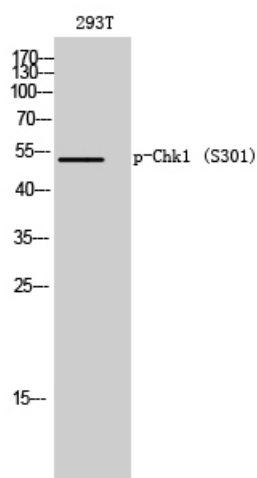
Avoid repeated freezing and thawing!

Usage suggestions

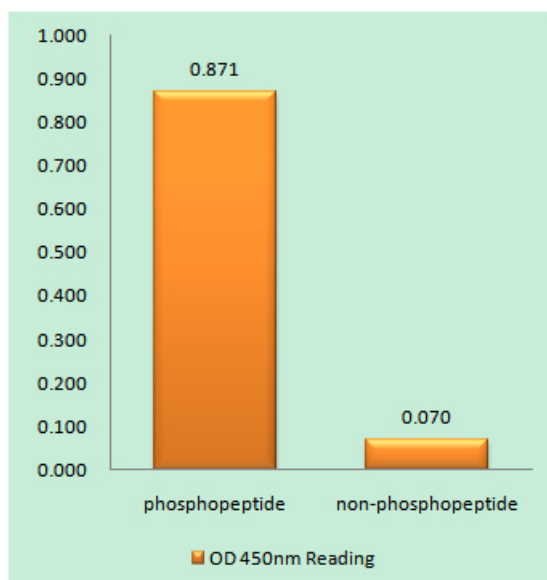
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



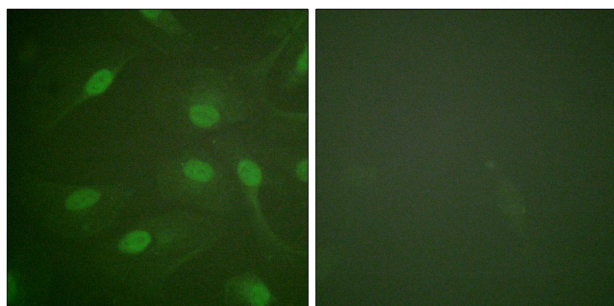
Products Images



Western Blot analysis of 293T cells using Phospho-Chk1 (S301) Polyclonal Antibody diluted at 1:2000



Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using Chk1 (Phospho-Ser301) Antibody



Immunofluorescence analysis of HeLa cells, using Chk1 (Phospho-Ser301) Antibody. The picture on the right is blocked with the phospho peptide.

Western blot analysis of lysates from 293 cells, using Chk1 (Phospho-Ser301) Antibody. The lane on the right is blocked with the phospho peptide.