

Phospho-Chk1 (S296) Antibody
Rabbit mAb
Catalog # AP90680**Specification****Phospho-Chk1 (S296) Antibody - Product Information**

Application	WB
Primary Accession	O14757
Clonality	Monoclonal
Other Names	
Checkpoint, S. pombe, homolog of, 1; CHEK1; CHK1; CHK1 checkpoint homolog (S. pombe); Serine/threonine-protein kinase Chk1;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	54434 Da

Phospho-Chk1 (S296) Antibody - Additional Information

Dilution	WB~~1:1000
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Phospho-Chk1 (S296)
Description	Chk1 kinase acts downstream of ATM/ATR kinase and plays an important role in DNA damage checkpoint control, embryonic development, and tumor suppression. Activation of Chk1 involves phosphorylation at Ser317 and Ser345 by ATM/ATR, followed by autophosphorylation of Ser296. Activation occurs in response to blocked DNA replication and certain forms of genotoxic stress.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Phospho-Chk1 (S296) Antibody - Protein Information**Name** CHEK1**Synonyms** CHK1**Function**

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 (PubMed:11535615),

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[20090422](http://www.uniprot.org/citations/20090422), PubMed: [9278511](http://www.uniprot.org/citations/9278511)). Inhibition of CDC25 leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression (PubMed: [9278511](http://www.uniprot.org/citations/9278511)). Also phosphorylates NEK6 (PubMed: [18728393](http://www.uniprot.org/citations/18728393)). 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 (PubMed: [15665856](http://www.uniprot.org/citations/15665856)). 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 (PubMed: [10673501](http://www.uniprot.org/citations/10673501), PubMed: [15659650](http://www.uniprot.org/citations/15659650), PubMed: [16511572](http://www.uniprot.org/citations/16511572)). Also promotes repair of DNA cross-links through phosphorylation of FANCE (PubMed: [17296736](http://www.uniprot.org/citations/17296736)). Binds to and phosphorylates TLK1 at 'Ser-743', which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A (PubMed: [12660173](http://www.uniprot.org/citations/12660173), PubMed: [12955071](http://www.uniprot.org/citations/12955071)). This may enhance chromatin assembly both in the presence or absence of DNA damage (PubMed: [12660173](http://www.uniprot.org/citations/12660173), PubMed: [12955071](http://www.uniprot.org/citations/12955071)). May also play a role in replication fork maintenance through regulation of PCNA (PubMed: [18451105](http://www.uniprot.org/citations/18451105)). May regulate the transcription of genes that regulate cell-cycle progression through the phosphorylation of histones (By similarity). Phosphorylates histone H3.1 (to form H3T11ph), which leads to epigenetic inhibition of a subset of genes (By similarity). May also phosphorylate RB1 to promote its interaction with the E2F family of transcription factors and subsequent cell cycle arrest (PubMed: [17380128](http://www.uniprot.org/citations/17380128)). Phosphorylates SPRTN, promoting SPRTN recruitment to chromatin (PubMed: [31316063](http://www.uniprot.org/citations/31316063)). Reduces replication stress and activates the G2/M checkpoint, by phosphorylating and inactivating PABIR1/FAM122A and promoting the serine/threonine-protein phosphatase 2A-mediated dephosphorylation and stabilization of WEE1 levels and activity (PubMed: [33108758](http://www.uniprot.org/citations/33108758)).

Cellular Location

Nucleus. Chromosome. Cytoplasm Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=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 Location

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

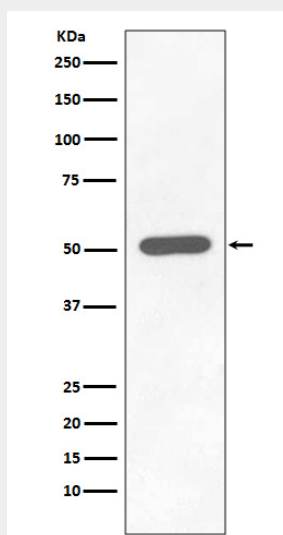
Phospho-Chk1 (S296) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)

- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Phospho-Chk1 (S296) Antibody - Images



Western blot analysis of Phospho-Chk1 (S296) expression in HEK293 cell lysate Treated with Calyculin.