

Anti-Chk1 CHEK1 Rabbit Monoclonal Antibody
Catalog # ABO13399

Specification

Anti-Chk1 CHEK1 Rabbit Monoclonal Antibody - Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	O14757
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

Description

Anti-Chk1 CHEK1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human.

Anti-Chk1 CHEK1 Rabbit Monoclonal Antibody - Additional Information

Gene ID 1111

Other Names

Serine/threonine-protein kinase Chk1, 2.7.11.1, CHK1 checkpoint homolog, Cell cycle checkpoint kinase, Checkpoint kinase-1, CHEK1, CHK1

Calculated MW

54434 MW KDa

Application Details

WB 1:500-1:2000
IHC 1:50-1:200
ICC/IF 1:50-1:200
FC 1:50

Subcellular Localization

Nucleus. Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. 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.

Tissue Specificity

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

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human Chk1

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-Chk1 CHEK1 Rabbit Monoclonal 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, PubMed: 12399544, PubMed: 12446774, PubMed: 14559997, PubMed: 14988723, PubMed: 15311285, PubMed: 15650047, PubMed: 15665856, PubMed: 32357935). May also negatively regulate cell cycle progression during unperturbed cell cycles (PubMed: 11535615, PubMed: 12399544, PubMed: 12446774, PubMed: 14559997, PubMed: 14988723, PubMed: 15311285, PubMed: 15650047, PubMed: 15665856). This regulation is achieved by a number of mechanisms that together help to preserve the integrity of the genome (PubMed: 11535615, PubMed: 12399544, PubMed: 12446774, PubMed: 14559997, PubMed: 14988723, PubMed: 15311285, PubMed: 15650047, PubMed: 15665856). Recognizes the substrate consensus sequence [R-X-X- S/T] (PubMed: 11535615, PubMed: 12399544, PubMed: 12446774, PubMed: 14559997, PubMed: 14988723, PubMed: 15311285, PubMed: 15650047, PubMed: 15665856). Binds to and phosphorylates CDC25A, CDC25B and CDC25C (PubMed: 12676583, PubMed: 12676925, PubMed: 12759351, PubMed: 14559997, PubMed: 14681206, PubMed: 14681206, PubMed: 14681206).

<http://www.uniprot.org/citations/19734889> target="_blank">19734889, PubMed:9278511). 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 (PubMed:9278511). Phosphorylation of CDC25A at 'Ser-76', 'Ser-124', 'Ser-178', 'Ser-279' and 'Ser-293' promotes proteolysis of CDC25A (PubMed:12676583, PubMed:12676925, PubMed:12759351, PubMed:14681206, PubMed:19734889, PubMed:9278511). 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 (PubMed:19734889, PubMed:20090422, PubMed:9278511). Inhibition of CDC25 leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression (PubMed:9278511). Also phosphorylates NEK6 (PubMed: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). 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, PubMed:15659650, PubMed:16511572). Also promotes repair of DNA cross-links through phosphorylation of FANCE (PubMed:17296736). Binds to and phosphorylates TLK1 at 'Ser-743', which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A (PubMed:12660173, PubMed:12955071). This may enhance chromatin assembly both in the presence or absence of DNA damage (PubMed:12660173, PubMed:12955071). May also play a role in replication fork maintenance through regulation of PCNA (PubMed: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). Phosphorylates SPRTN, promoting SPRTN recruitment to chromatin (PubMed: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).

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

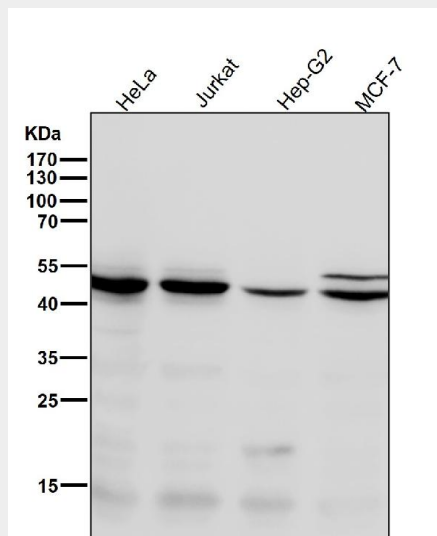
Expressed ubiquitously with the most abundant expression in thymus, testis, small intestine and colon

Anti-Chk1 CHEK1 Rabbit Monoclonal Antibody - Protocols

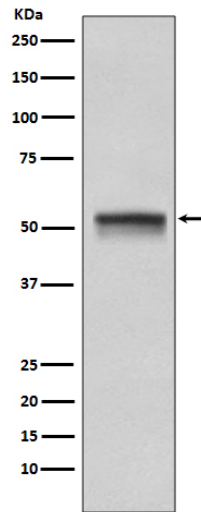
Provided below are standard protocols that you may find useful for product applications.

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

Anti-Chk1 CHEK1 Rabbit Monoclonal Antibody - Images



All lanes use the Antibody at 1:1K dilution for 1 hour at room temperature.



Western blot analysis of Chk1 expression in HeLa cell lysate.