Datasheet for ABIN7179990

anti-CHEK1 antibody (Ser280)

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Overview

Quantity:	100 µL
Target:	CHEK1
Binding Specificity:	Ser280
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This CHEK1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA

Product Details

Immunogen:	Synthesized non-phosphopeptide derived from Human Chk1 around the phosphorylation site of Serine 280.
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

Target Details

Target:	CHEK1
Alternative Name:	CHEK1 (CHEK1 Products)

Target Details

Background:	Background: 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. May also negatively regulate cell cycle progression during unperturbed cell cycles. This regulation is achieved by a number of mechanisms that together help to preserve the integrity of the genome. 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. 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 CDCD25A. Inhibition of CDC25 leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. Also phosphorylates NEK6. 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. 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. Also promotes repair of DNA cross-links through phosphorylation of FANCE. Binds to and phosphorylates TLK1 at 'Ser-743', which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A. This may enhance chromatin assembly both in the presence or absence of DNA damage. May also play a role in replication fork maintenance through regulation of PCNA. May regulate the transcription of genes that regulate cell-cycle progression through the phosphorylation of histones. Phosphorylates histone H3.1 (to form H3T11ph), which leads to epigenetic inhibition of a subset of genes. May also phosphorylate RB1 to promote its interaction with the E2F family of transcription factors and subsequent cell cycle arrest. Isoform 2:Endogenous repressor of isoform 1, interacts with, and antagonizes CHK1 to promote the S to G2/M phase transition. Conn CW, et al. (2004)Dev Cell, 7(2): 275-81. King FW, et al. (2004)Cell Cycle, 3(5): 634-7. Shtivelman E, et al. (2002) Curr Biol, 12(11): 919-24. Aliases: C85740 antibody, Cell cycle checkpoint kinase antibody, Checkpoint , S. pombe, homolog of, 1 antibody, Checkpoint kinase 1 antibody, Checkpoint kinase 1 homolog (S. pombe) antibody, CHEK 1 antibody, Chek1 antibody, Chk 1 antibody, Chk1 antibody, CHK1 checkpoint homolog (S. pombe) antibody, CHK1_HUMAN antibody, EC 2.7.11.1 antibody, rad27 antibody, Serine/threonine protein kinase Chk1 antibody, Serine/threonine-protein kinase CHK1

Target Details

	antibody, STT3, subunit of the oligosaccharyltransferase complex, homolog A (S. cerevisiae) antibody
UniProt:	O14757
Pathways:	p53 Signaling, Apoptosis, Cell Division Cycle, DNA Damage Repair

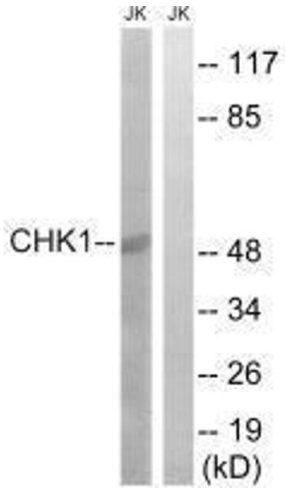
Application Details

Application Notes:	WB:1:500-1:3000,
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



Western Blotting

Image 1. Western blot analysis of extracts from JurKat cells, using Chk1 (Ab-280) antibody.