

Rabbit CHEK2 Polyclonal Antibody | anti-CHEK2 antibody

CHEK2 Antibody

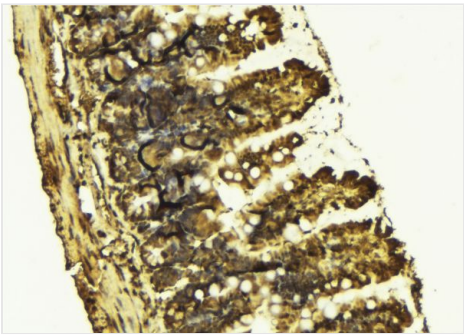
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326627	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

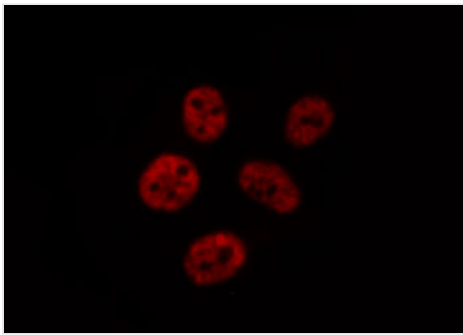
CHEK2; Polyclonal Antibody; CHEK2 Antibody; CDS 1; Cds1; Cds1 homolog; Checkpoint kinase 2; Checkpoint like protein CHK2; CHEK 2; Chk2; Chk 2; CHK2 checkpoint homolog (S. pombe); CHK2 checkpoint homolog; CHK2_HUMAN; hCds1; HuCds 1; LFS 2; LFS2; PP1425; RAD 53; RAD53; Rad53 homolog; Serine/threonine protein kinase Chk2; Serine/threonine-protein kinase Chk2; anti-CHEK2 antibody

PRODUCT SPECIFICATIONS

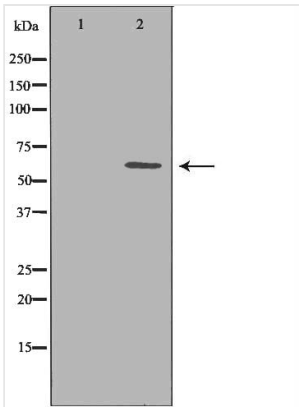
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	CHEK2 antibody detects endogenous levels of total CHEK2
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	586
Applicable Applications for anti-CHEK2 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CHEK2
Subcellular Location	Nucleus; Nucleus. Isoform 10 is present throughout the cell and nucleus > PML Body. Nucleus > Nucleoplasm. Recruited into PML bodies together with TP53.
Tissue Specificity	High expression is found in testis, spleen, colon and peripheral blood leukocytes. Low expression is found in other tissues.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA326627 at 1/100 staining Mouse colon tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)
AAA326627 staining 293 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)
Western blot analysis of Jurkat whole cell lysates, using CHEK2 Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-CHEK2 antibody	Description: Chk2 is the mammalian orthologue of the budding yeast Rad53 and fission yeast Cds1 checkpoint kinases (1-3). The amino-terminal domain of Chk2 contains a series of seven serine or threonine residues (Ser19, Thr26, Ser28, Ser33, Ser35, Ser50, and Thr68) each followed by glutamine (SQ or TQ motif). These are known to be preferred sites for phosphorylation by ATM/ATR kinases (4, 5). After DNA damage by ionizing radiation (IR), UV irradiation, or hydroxyurea treatment, Thr68 and other sites in this region become phosphorylated by ATM/ATR (5-7). The SQ/TQ cluster domain, therefore, seems to have a regulatory function. Phosphorylation at Thr68 is a prerequisite for the subsequent activation step, which is attributable to autophosphorylation of Chk2 at residues Thr383 and Thr387 in the activation loop of the kinase domain (8). Function: Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest, activation of DNA repair and apoptosis in response to the presence of DNA double-strand breaks. May also negatively regulate cell cycle progression during unperturbed cell cycles. Following activation, phosphorylates numerous effectors preferentially at the consensus sequence [L-X-R-X-X-S/T]. Regulates cell cycle checkpoint arrest through phosphorylation of CDC25A, CDC25B and CDC25C, inhibiting their activity. Inhibition of CDC25 phosphatase activity leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. May also phosphorylate NEK6 which is involved in G2/M cell cycle arrest. Regulates DNA repair through phosphorylation of BRCA2, enhancing the association of RAD51 with chromatin which promotes DNA repair by homologous recombination. Also stimulates the transcription of genes involved in DNA repair (including BRCA2) through the phosphorylation and activation of the transcription factor FOXM1. Regulates apoptosis through the phosphorylation of p53/TP53, MDM4 and PML. Phosphorylation of p53/TP53 at 'Ser-20' by CHEK2 may alleviate inhibition by MDM2, leading to accumulation of active p53/TP53. Phosphorylation of MDM4 may also reduce degradation of p53/TP53. Also controls the transcription of pro-apoptotic genes through phosphorylation of the transcription factor E2F1. Tumor suppressor, it may also have a DNA damage-independent function in mitotic spindle assembly by phosphorylating BRCA1. Its absence may be a cause of the chromosomal instability observed in some cancer cells. Promotes the CCAR2-SIRT1 association and is required for CCAR2-mediated SIRT1 inhibition (PubMed:25361978). Subunit Structure: Homodimer. Homodimerization is part of the activation process but the dimer may dissociate following activation. Interacts with PML. Interacts with TP53. Interacts with RB1; phosphorylates RB1. Interacts with BRCA1. Interacts (phosphorylated at Thr-68) with MDC1; requires ATM-mediated phosphorylation of CHEK2. Interacts with TP53BP1; modulates CHEK2 phosphorylation at Thr-68 in response to ionizing radiation. Interacts with CDC25A; phosphorylates CDC25A and mediates its degradation in response to ionizing radiation. Interacts with CUL1; mediates CHEK2 ubiquitination and regulation. Interacts with CDKN2AIP. Interacts (via protein kinase domain) with CCAR2 (via N-terminus). Interacts with SIRT1. Post-translational Modifications: Phosphorylated. Phosphorylated at Ser-73 by PLK3 in response to DNA damage, promoting phosphorylation at Thr-68 by ATM and the G2/M transition checkpoint. Phosphorylation at Thr-68 induces homodimerization. Autophosphorylates at Thr-383 and Thr-387 in the T-loop/activation segment upon dimerization to become fully active and phosphorylate its substrates like for instance CDC25C. DNA damage-induced autophosphorylation at Ser-379 induces CUL1-mediated ubiquitination and regulates the pro-apoptotic function. Phosphorylation at Ser-456 also regulates ubiquitination. Phosphorylated by PLK4. Ubiquitinated. CUL1-mediated ubiquitination regulates the pro-apoptotic function. Ubiquitination may also regulate protein stability. Ubiquitinated by RNF8 via 'Lys-48'-linked ubiquitination. Similarity: Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CHK2 subfamily.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	54112407
NCBI GeneID	11200
NCBI Accession #	NP_001005735.1
NCBI GenBank Nucleotide #	NM_001005735.1
UniProt Accession #	O96017; Q6QA03; Q6QA04; Q6QA05; Q6QA06; Q6QA07; Q6QA08; Q6QA10; A8K3Y9; B7ZBF3; B7ZBF4; B7ZBF5
Molecular Weight	Observed: 61 kDa Predicted: 61 kDa
NCBI Official Full Name	serine/threonine-protein kinase Chk2 isoform c
NCBI Official Synonym Full Names	checkpoint kinase 2
NCBI Official Symbol	CHEK2

NCBI Official Synonym Symbols	CDS1; CHK2; LFS2; RAD53; hCds1; HuCds1; PP1425
NCBI Protein Information	serine/threonine-protein kinase Chk2
UniProt Protein Name	Serine/threonine-protein kinase Chk2
UniProt Gene Name	CHEK2
UniProt Synonym Gene Names	CDS1; CHK2; RAD53; Hucds1; hCds1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/chek2-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/326627>