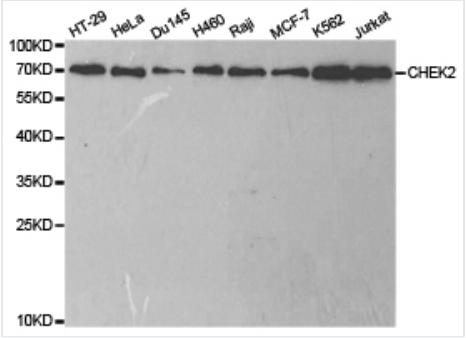
CHEK2 Antibody – Rabbit

PRODUCT OVERVIEW

Product Name	CHEK2, Antibody
Full Product Name	CHEK2 Antibody
Product Gene Name	anti-CHEK2 antibody
Product Synonym Names	CDS1; CHK2; HuCds1; LFS2; PP1425; RAD53
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Purity/Purification	Affinity purification
Preparation and Storage	Store at-20 degree C or-80 degree C. Avoid freeze/thaw cycles.
Molecular Weight	61kDa
OMIM	114480
3D Structure	ModBase 3D Structure for O96017
Immunogen	Recombinant protein of human CHEK2
Storage Buffer	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Product Categories/Family for anti-CHEK2 antibody	Autophagy antibody; Cancer; Cardiovascular; Cell Biology; Epigenetics & Nuclear Signaling; Developmental Biologys; Immunology; Drug Discovery Products; Metabolism; Neuroscience; Signal Transduction; Stem Cells
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-CHEK2 antibody	Western Blot (WB), Immunohistochemistry (IHC)
Application Notes for anti-CHEK2 antibody	WB: 1:500-1:2000 IHC: 1:50-1:200
Related Product Information for anti-CHEK2 antibody	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).
Product References and Citations for anti-CHEK2 antibody	1. Allen, J.B. et al. (1994) Genes Dev. 8, 2401-2415. 2. Weinert, T.A. et al. (1994) Genes Dev. 8, 652-665. 3. Murakami, H. and Okayama, H. (1995) Nature 374, 817-819. 4. Kastan, M.B. and Lim, D.S. (2000) Nat. Rev. Mol. Cell Biol. 1, 179-186. 5. Matsuoka, S. et al. (2000) Proc. Natl. Acad. Sci. USA 97, 10389-10394. 6. Melchionna, R. et al. (2000) Nat. Cell Biol. 2, 762-765. 7. Ahn, J.Y. et al. (2000) Cancer Res. 60, 5934-5936. 8. Lee, C.H. and Chung, J.H. (2001) J. Biol. Chem. 276, 30537-30541.
Other Notes	Small volumes of anti-CHEK2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CHEK2 purchase	MBS8504997 is an antibody targeting CHEK2. Also known as CHEK2 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Western Blot (WB) of anti-CHEK2 antibody
Western blot analysis of extracts of various celllines, using CHEK2 antibody.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CHEK2. It may not necessarily be applicable to this product.

NCBI GI #	54112407
NCBI GeneID	11200
NCBI Accession #	NP_001005735.1
UniProt Primary Accession #	O96017
UniProt Secondary Accession #	Q6QA03; Q6QA04; Q6QA05; Q6QA06; Q6QA07; Q6QA08; Q6QA10; A8K3Y9; B7ZBF3; B7ZBF4; B7ZBF5
UniProt Related Accession #	O96017
GenBank Nucleotide #	NM_001005735.1
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
UniProt Protein Name	Serine/threonine-protein kinase Chk2
UniProt Synonym Protein Names	CHK2 checkpoint homolog; Cds1 homolog; Hucds1; hCds1; Checkpoint kinase 2
Protein Family	Serine/threonine-protein kinase
UniProt Gene Name	CHEK2
UniProt Synonym Gene Names	CDS1; CHK2; RAD53; Hucds1; hCds1
NCBI Protein Information	serine/threonine-protein kinase Chk2
NCBI Summary for CHEK2	In response to DNA damage and replication blocks, cell cycle progression is halted through the control of critical cell cycle regulators. The protein encoded by this gene is a cell cycle checkpoint regulator and putative tumor suppressor. It contains a forkhead-associated protein interaction domain essential for activation in response to DNA damage and is rapidly phosphorylated in response to replication blocks and DNA damage. When activated, the encoded protein is known to inhibit CDC25C phosphatase, preventing entry into mitosis, and has been shown to stabilize the tumor suppressor protein p53, leading to cell cycle arrest in G1. In addition, this protein interacts with and phosphorylates BRCA1, allowing BRCA1 to restore survival after DNA damage. Mutations in this gene have been linked with Li-Fraumeni syndrome, a highly penetrant familial cancer phenotype usually associated with inherited mutations in TP53. Also, mutations in this gene are thought to confer a predisposition to sarcomas, breast cancer, and brain tumors. This nuclear protein is a member of the CDS1 subfamily of serine/threonine protein kinases. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2012]

UniProt Comments for CHEK2	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).
Research Articles on CHEK2	**1.** These data suggest that the CHEK2 c.1100delC mutation is associated with an increased risk for MBC in the Finnish population.
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