CHK2-S19 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	Chk2-S19, Polyclonal Antibody
Full Product Name	Phospho-Chk2-S19 Rabbit pAb
Product Gene Name	anti-Chk2-S19 antibody
Product Synonym Names	CDS1; CHK2; LFS2; RAD53; hCds1; HuCds1; PP1425
Immunogen Sequence	ACSQP
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid PBS with 0.01% thimerosal, 50% glycerol, pH7.3.
Purity/Purification	Affinity purification
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles. Ship: Ice Pack
Molecular Weight	60,915 Da
Chromosome Location	Chromosome: 22; NC_000022.10 (29083731..29137822, complement). Location: 22q12.1
OMIM	114480
3D Structure	ModBase 3D Structure for O96017
Cellular Location	Nucleus, Nucleus, PML body, nucleoplasm
Research Area	Epigenetics Nuclear Signaling, DNA Damage Repair, Protein phosphorylation, Cancer, Signal Transduction, Kinase, Serine threonine kinases, ATM Signaling Pathway, Cell Biology Developmental Biology, Apoptosis, Cell Cycle, Cell Cycle Control-G1 S Checkpoint, Cell Cycle Control-G2 M DNA Damage Checkpoint
Immunogen	A synthetic phosphorylated peptide around S19 of human Chk2 (NP_001005735.1).
Product Categories/Family for anti-Chk2-S19 antibody	Phosphorylated Antibodies
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-Chk2-S19 antibody	Western Blot (WB)
Application Notes for anti-Chk2-S19 antibody	WB: 1:500-1:2000

Related Product Information for anti-Chk2-S19 antibody	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.
Other Notes	Small volumes of anti-Chk2-S19 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 Chk2-S19 purchase	MBS9146522 is an antibody targeting Chk2-S19. Also known as Phospho-Chk2-S19 Rabbit pAb. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Chk2-S19. 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
UniProt Gene Name	CHEK2
UniProt Synonym Gene Names	CDS1; CHK2; RAD53; Hucds1; hCds1
UniProt Entry Name	CHK2_HUMAN
NCBI Protein Information	serine/threonine-protein kinase Chk2; cds1 homolog; CHK2 checkpoint homolog; checkpoint-like protein CHK2

UniProt Comments for Chk2-S19	Chk2: a CAMK protein kinase of the Rad53 family. 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. Phosphorylates and inhibits CDC25C, preventing entry into mitosis, p53, leading to cell cycle arrest in G1, and BRCA1, restoring survival after DNA damage. Twelve splice variant isoforms have been described for human Chk2. LOF mutants cause Li-Fraumeni syndrome, a highly penetrant familial cancer phenotype also caused by p53 mutations. Familial mutations also associated with prostate and breast cancer, and mutations also seen in a variety of sporadic cancers and cell lines. Protein type: Protein kinase, CAMK; Tumor suppressor; EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); Kinase, protein; CAMK group; RAD53 family Chromosomal Location of Human Ortholog: 22q12.1 Cellular Component: nucleoplasm; Golgi apparatus; chromosome, telomeric region; PML body Molecular Function: identical protein binding; protein serine/threonine kinase activity; protein binding; protein homodimerization activity; metal ion binding; ubiquitin protein ligase binding; protein kinase binding; ATP binding Biological Process: DNA damage induced protein phosphorylation; protein stabilization; transcription, DNA-dependent; protein amino acid autophosphorylation; positive regulation of transcription, DNA-dependent; DNA damage response, signal transduction; protein amino acid phosphorylation; DNA damage response, signal transduction resulting in induction of apoptosis; regulation of transcription, DNA-dependent; cell division; cellular protein catabolic process; double-strand break repair; DNA damage checkpoint; response to gamma radiation; regulation of protein catabolic process; G2/M transition of mitotic cell cycle; response to DNA damage stimulus Disease: Li-fraumeni Syndrome 2; Prostate Cancer; Breast Cancer; Osteogenic Sarcoma
Research Articles on Chk2-S19	**1.** The 1100delC mutation was encountered in the germline of one (1.7%) individual in this high risk cohort which indicates that the CHEK2 1100delC is not commonly encountered in Brazilian families with multiple diagnoses of breast and colorectal cancer.
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