ARG54940
anti-Chk2 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes Chk2
Tested Reactivity	Hu
Tested Application	FACS, ICC/IF, IHC, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Chk2
Antigen Species	Human
Immunogen	KLH-conjugated synthetic peptide around aa. 111-141 (N-terminus) of Human CHEK2.
Conjugation	Un-conjugated
Alternate Names	Hucds1; PP1425; CDS1; Serine/threonine-protein kinase Chk2; Checkpoint kinase 2; CHK2; hCds1; RAD53; HuCds1; LFS2; CHK2 checkpoint homolog; EC 2.7.11.1; Cds1 homolog

Application Instructions

Application table

Application	Dilution
FACS	1:10 - 1:50
ICC/IF	1:10 - 1:50
IHC	1:50 - 1:100
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

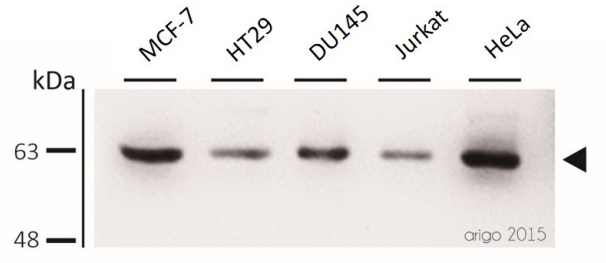
Properties

Form	Liquid
Purification	Purification with Protein A and immunogen peptide.
Buffer	PBS and 0.09% (W/V) Sodium azide
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

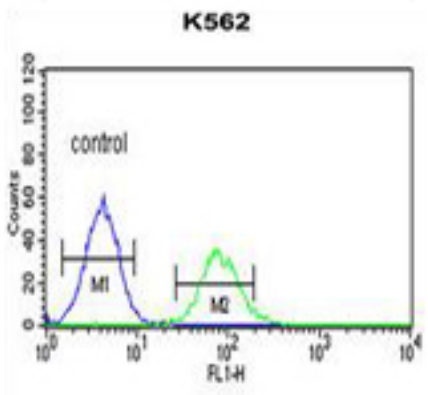
Database links	GeneID: 11200 Human Swiss-port # O96017 Human
Gene Symbol	CHEK2
Gene Full Name	checkpoint kinase 2
Background	In response to DNA damage and replication blocks, cell cycle progression is halted through the control of critical cell cycle regulators. The protein encoded by this gene is a 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]
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. [UniProt]
Highlight	Related products: Chk2 antibodies; Anti-Rabbit IgG secondary antibodies;
Resrarch Area	Cancer antibody; Gene Regulation antibody
Cellular Localization	Isoform 2: Nucleus. Note=Isoform 10 is present throughout the cell Isoform 7: Nucleus. Isoform 12: Nucleus.

Images



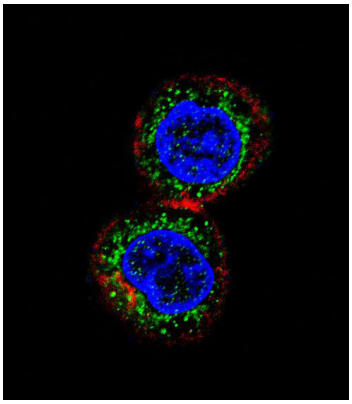
ARG54940 anti-Chk2 antibody WB image

Western blot: 30 µg of MCF-7, HT29, DU145, Jurkat and HeLa cell lysates stained with ARG54940 anti-Chk2 antibody at 1:500 dilution.



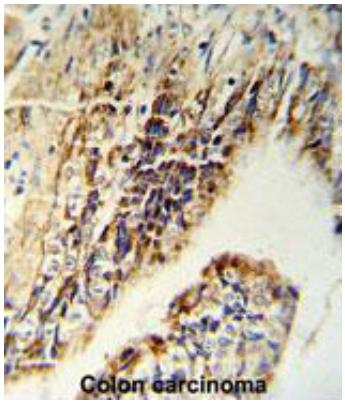
ARG54940 anti-Chk2 antibody FACS image

Flow Cytometry: K562 cells stained with ARG54940 anti-Chk2 antibody (right histogram) or without primary antibody control (left histogram), followed by incubation with FITC labelled secondary antibody.



ARG54940 anti-Chk2 antibody ICC/IF image

Immunofluorescence: HepG2 cell stained with ARG54940 anti-Chk2 antibody (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).



ARG54940 anti-Chk2 antibody IHC image

Immunohistochemistry: formalin fixed and paraffin embedded colon carcinoma stained with ARG54940 anti-Chk2 antibody.