



Chk2 Monoclonal Antibody

Catalog No	BYab-16552
Isotype	IgG
Reactivity	Human
Applications	WB;IHC;IF;ELISA
Gene Name	CHEK2
Protein Name	Serine/threonine-protein kinase Chk2
Immunogen	Purified recombinant fragment of human Chk2 (aa481-531) expressed in E. Coli.
Specificity	Chk2 Monoclonal Antibody detects endogenous levels of Chk2 protein.
Formulation	Ascitic fluid containing 0.03% sodium azide,0.5% BSA, 50%glycerol.
Source	Monoclonal, Mouse
Purification	Affinity purification
Dilution	Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/200 - 1/1000. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications.
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	CHEK2; CDS1; CHK2; RAD53; Serine/threonine-protein kinase Chk2; CHK2 checkpoint homolog; Cds1 homolog; Hucds1; hCds1; Checkpoint kinase 2
Observed Band	
Cell Pathway	[Isoform 2]: Nucleus. Isoform 10 is present throughout the cell.; [Isoform 4]: Nucleus.; [Isoform 7]: Nucleus.; [Isoform 9]: Nucleus.; [Isoform 12]: Nucleus.; 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.
Function	catalytic activity:ATP + a protein = ADP + a phosphoprotein.;cofactor:Magnesium.;disease:Defects in CHEK2 are associated with Li-Fraumeni syndrome 2 (LFS2) [MIM:609265]; a highly penetrant familial cancer phenotype usually associated with inherited mutations in p53/TP53.;disease:Defects in CHEK2 are found in some patients with osteosarcoma (OSRC) [MIM:259500];disease:Defects in CHEK2 are found in some patients with prostate cancer (CaP) [MIM:176807];enzyme regulation:Rapidly phosphorylated on Thr-68 by MLTK in response to DNA

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damage and to replication block. Kinase activity is also up-regulated by autophosphorylation.,function:Regulates cell cycle checkpoints and apoptosis in response to DNA damage, particularly to DNA double-strand breaks. Inhibits CDC25C phosphatase by phosphorylation on 'Ser-216', preventing the entry into mitosis. May also play a role in meiosis. Regulates the TP53

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 mutati

matters needing attention

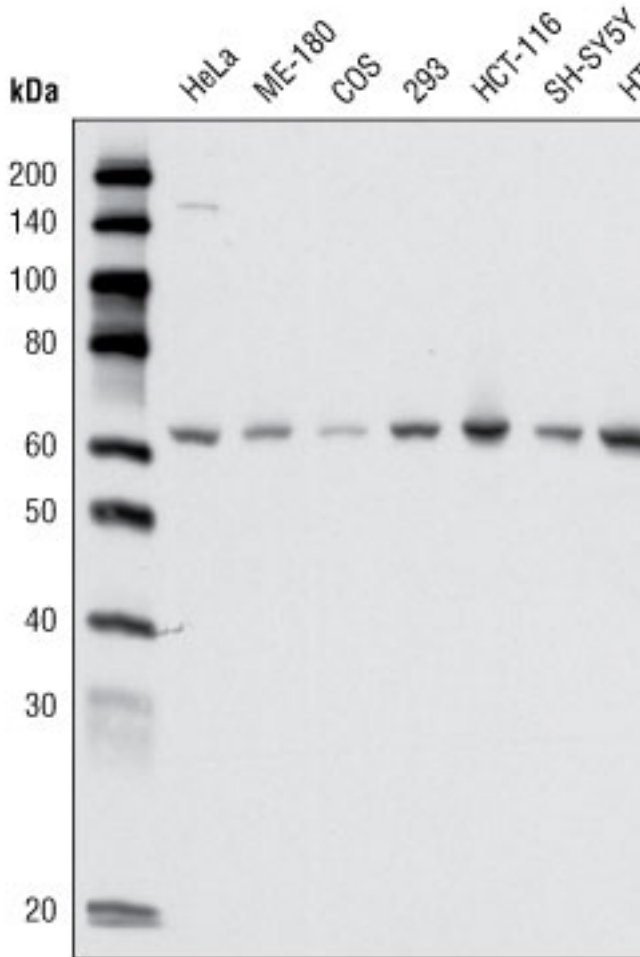
Avoid repeated freezing and thawing!

Usage suggestions

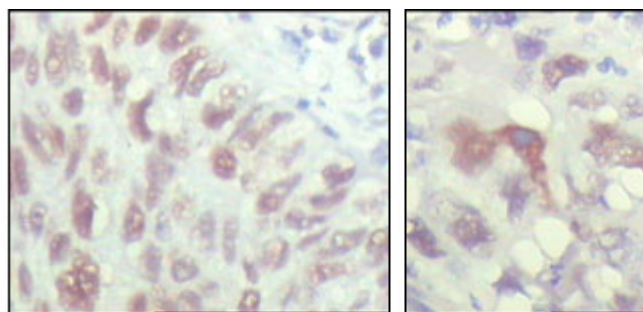
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



Products Images

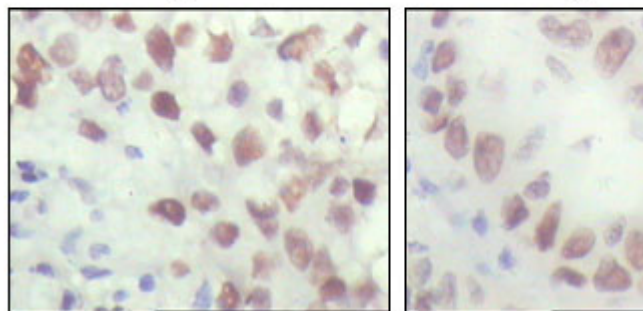


Western Blot analysis using Chk2 Monoclonal Antibody against cell lysate from various cell types.



A

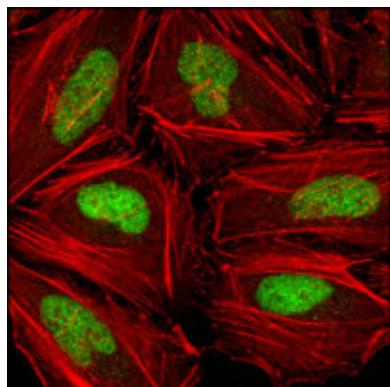
B



C

D

Immunohistochemistry analysis of paraffin-embedded human lung carcinoma (A), liver carcinoma (B), breast carcinoma (C) and kidney carcinoma (D), showing nuclear localization with DAB staining using Chk2 Monoclonal Antibody.



Confocal immunofluorescence analysis of HeLa cells using Chk2 Monoclonal Antibody (green), showing nuclear localization. Red: Actin filaments have been labeled with DY-554 phalloidin.