

Product Name: KD-Validated Checkpoint Kinase 2 Recombinant Rabbit Monoclonal Antibody

Catalog #: KVA01611

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC,IHC-P
Reactivity	Human
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200
Molecular Weight	Calculated MW: 60.9kDa

Antigen Information

Gene Name	CHEK2
Alternative Names	CHEK2; Checkpoint Kinase 2; CDS1; CHK2; PP1425; RAD53; Serine/Threonine-Protein Kinase Chk2; CHK2 Checkpoint Homolog; Cds1 Homolog; BA444G7; HuCds1; HCds1; CHK2 (Checkpoint, S.Pombe) Homolog; CHK2 Checkpoint Homolog (S. Pombe); Checkpoint-Like Protein CHK2; EC 2.7.11.1; EC 2.7.11 48; HUCDS1; Hucds1; LFS2
Gene ID	11200.0
SwissProt ID	O96017
Immunogen	A synthesized peptide derived from human Chk2

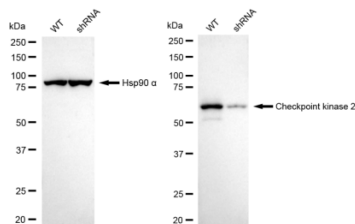
Background

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]

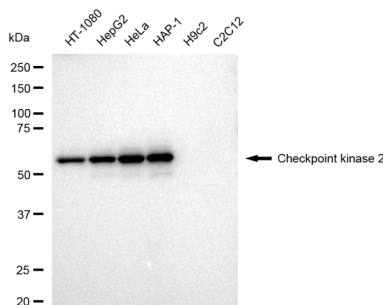
Research Area

Epigenetics and Nuclear Signaling,Cancer

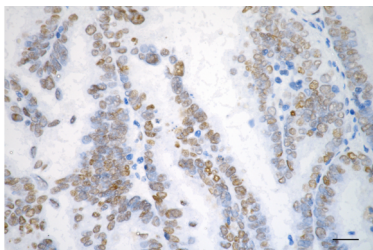
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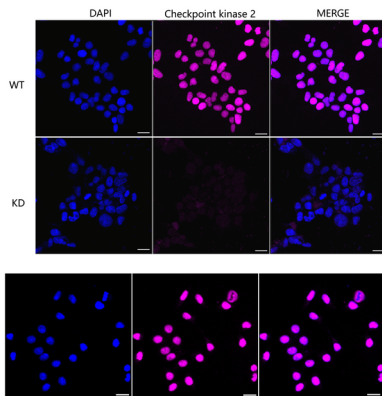
Western blotting analysis using Checkpoint kinase 2 antibody (KVA01611). Checkpoint kinase 2 expression in wild type (WT) and Checkpoint kinase 2 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with Checkpoint kinase 2 antibody (KVA01611, 1:20,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



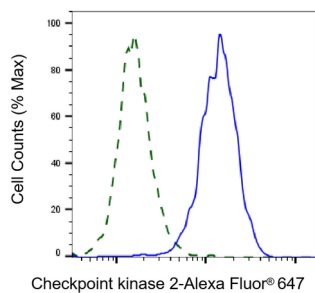
Western blotting analysis using Checkpoint kinase 2 antibody (KVA01611). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with Checkpoint kinase 2 antibody (KVA01611, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



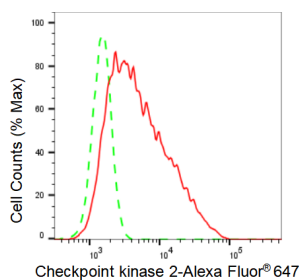
Immunohistochemistry was performed on paraffin-embedded human ovarian carcinoma using checkpoint kinase 2 antibody (KVA01611, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.



Immunocytochemical staining of HeLa cells using Checkpoint kinase 2 antibody (KVA01611, 1:1,000), Top panel: wild-type (WT); Bottom panel: Checkpoint kinase 2 shRNA knockdown (KD). Nuclei were stained blue with DAPI; Checkpoint kinase 2 was stained magenta with Alexa Fluor® 647. Scale bar, 20 μm.



Validation of Checkpoint kinase 2 knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with Checkpoint kinase 2 antibody (KVA01611, 1:2,000) and analyzed using BD flow cytometer.



Flow cytometric analysis of Checkpoint kinase 2 expression in HepG2 cells using Checkpoint kinase 2 antibody (KVA01611, 1:2,000). Green, isotype control; red, Checkpoint kinase 2.