

**Product Name: Phospho-Chk2 (T68) (17G19) Rabbit
Monoclonal Antibody
Catalog #: AMRe05877**



Summary

Production Name	Phospho-Chk2 (T68) (17G19) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB,ELISA
Reactivity	Human

Performance

Conjugation	Unconjugated
Modification	Phospho Antibody
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
Purification	Affinity purification

Immunogen

Gene Name	CHEK2
Alternative Names	CHEK2; CHK2; Cds1; Chk2; EC 2.7.11.1; RAD53; kinase Chk2;
Gene ID	11200.0
SwissProt ID	O96017.

Application

Dilution Ratio	WB 1:500-1:2000
Molecular Weight	61kDa

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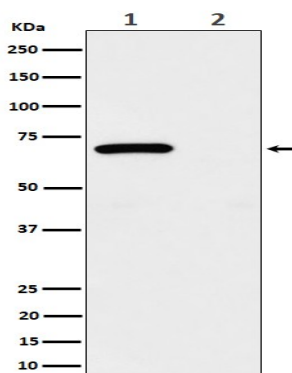


Background

These are known to be preferred sites for phosphorylation by ATM/ATR kinases. After DNA damage by ionizing radiation (IR), UV irradiation, or hydroxyurea treatment, Thr68 and other sites in this region become phosphorylated by ATM/ATR. The SQ/TQ cluster domain, therefore, seems to have a regulatory 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. Promotes the CCAR2-SIRT1 association and is required for CCAR2-mediated SIRT1 inhibition (PubMed:25361978).

Research Area

Image Data



Western blot analysis of Phospho-Chk2 (T68) expression in (1) 293 treated with UV and Untreated cell lysate; (2) Untreated.

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Note

For research use only.