

Product Data Sheet: Purified anti-phospho-Chk2 (Thr68) rabbit mAb

Catalog Number:	2116
Clone:	Chk2T68-D12
Isotype:	Rabbit IgG1κ
Immunogen:	A synthetic phospho-peptide corresponding to residues surrounding Thr68 of human phospho Chk2
Reactivity:	Mouse, Human
Cross Reactivity:	Predicted to work with mouse, rat, and other homologues.
Preparation:	Protein A+G
Formulation:	1X PBS, 0.02% NaN ₃ , 50% Glycerol, 0.1% BSA
Applications:	WB, Flow Cytometry
Recommended Usage:	1.0 - 0.1 µg/ml. Optimum concentration should be determined by the user.
Product Configuration:	200 ul (0.5mg/ml)
Detection:	Anti-Rabbit IgG

Description

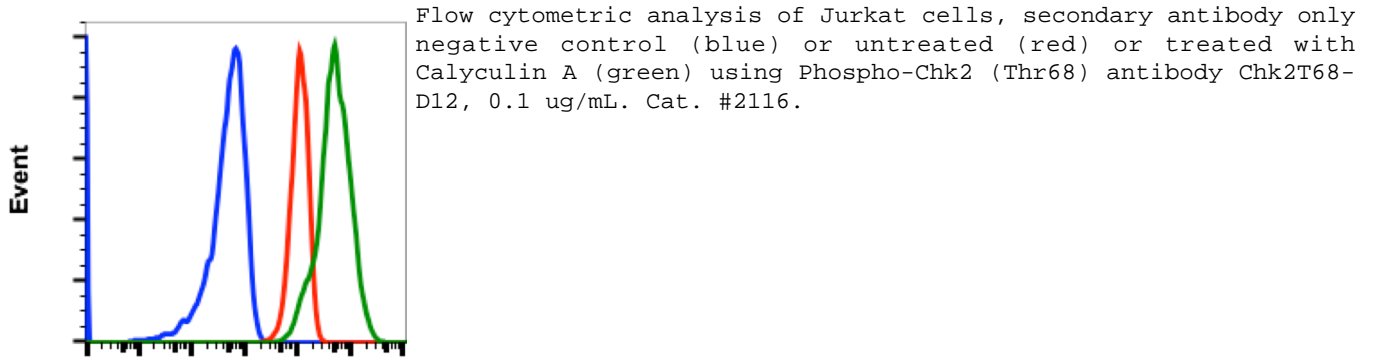
Serine/threonine-protein kinase Chk2, phospho Chk2, is required for checkpoint-mediated cell cycle arrest, activation of DNA repair and apoptosis in response to the presence of DNA double-strand breaks. It may also negatively regulate cell cycle progression during unperturbed cell cycles. Following activation, it phosphorylates numerous effectors preferentially at the consensus sequence [L-X-R-X-X-S/T]. It also 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. Chk2 may also phosphorylate NEK6 which is involved in G2/M cell cycle arrest. Phospho Chk2 Regulates DNA repair through phosphorylation of BRCA2, enhancing the association of RAD51 with chromatin which promotes DNA repair by homologous recombination. It stimulates the transcription of genes involved in DNA repair (including BRCA2) through the phosphorylation and activation of the transcription factor FOXM1. It regulates apoptosis through the phosphorylation of p53/TP53, MDM4 and PML. Phosphorylation of p53/TP53 at 'Ser-20' by phospho Chk2 may alleviate inhibition by MDM2, leading to accumulation of active p53/TP53. Phosphorylation of MDM4 may also reduce degradation of p53/TP53. It controls the transcription of pro-apoptotic genes through phosphorylation of the transcription factor E2F1. As a 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. It promotes the CCAR2-SIRT1 association and is required for CCAR2-mediated SIRT1 inhibition.

Alternative name(s):

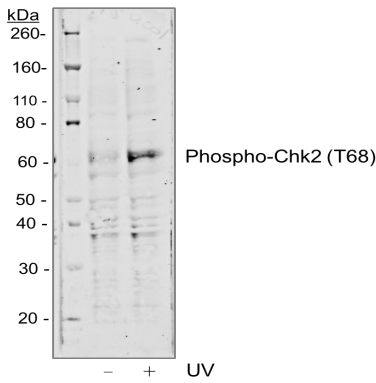
- CHK2 checkpoint homolog
- Cds1 homolog
- *Short name:* Hucds1
- *Short name:* hCds1

- Checkpoint kinase 2

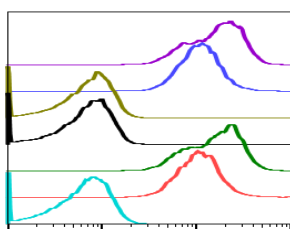
Purified anti-phospho-Chk2 (Thr68) rabbit mAb Images



Phospho-Chk2 (T68)

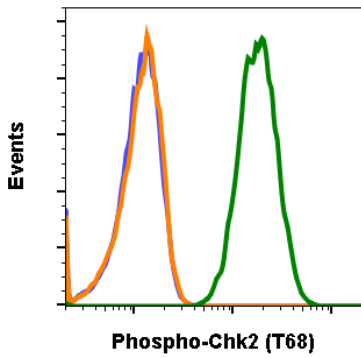


Western blot analysis of HEK293 cell extract, untreated or treated with UV using Phospho Chk2(T68) antibody Chk2T68-D12. Cat. #2116.



Peptide blocking flow cytometric analysis of HEK293T cells, secondary antibody only negative control (light blue) or untreated (red) or UV/TPA-treated (green) or untreated and blocked with phospho-peptide (black) or UV/TPA and blocked with phospho peptide (gold) or untreated and blocked with non-phospho peptide (dark blue) or UV/TPA and blocked with non-phospho peptide (purple) using Phospho-Chk2 (T68) antibody Chk2T68-D12, 0.1µg/mL. Cat. #2116.

SampleID	Median : BL1-A
UVP D12 N	16792
Ctr1 D12 N	10578
UVP D12 P	729
Ctr1 D12 P	711
UVP D12	16290
Ctr1 D12	10297
Ctr1 2' only	627



Chk2T68-D12 recognizes basal phosphorylation levels in mouse cells. Flow cytometric analysis of 3T3 cells, secondary antibody only (blue) or 0.1 µg/mL of isotype control Cat. #2141 (orange) or of Phospho-Chk2 (T68) antibody Chk2T68-D12 (green) Cat. #2116.