Anti-Phospho-Chk1 (S280) Antibody [JE47-66] HA721471

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB
Molecular Wt:	Predicted band size: 54 kDa
Clone number:	JE47-66

Description: Checkpoint kinase 1, commonly referred to as Chk1, is a serine/threonine-specific protein kinase that, in humans, is encoded by the CHEK1 gene. Chk1 coordinates the DNA damage response (DDR) and cell cycle checkpoint response. Activation of Chk1 results in the initiation of cell cycle checkpoints, cell cycle arrest, DNA repair and cell death to prevent damaged cells from progressing through the cell cycle. Checkpoint kinases (Chks) are protein kinases that are involved in cell cycle control. Two checkpoint kinase subtypes have been identified, Chk1 and Chk2. Chk1 is a central component of genome surveillance pathways and is a key regulator of the cell cycle and cell survival. Chk1 is required for the initiation of DNA damage checkpoints and has recently been shown to play a role in the normal (unperturbed) cell cycle. Chk1 impacts various stages of the cell cycle including the S phase, G2/M transition and M phase. In addition to mediating cell cycle checkpoints, Chk1 also contributes to DNA repair processes, gene transcription, egg production, embryo development, cellular responses to HIV infection and somatic cell viability.

Immunogen: Synthetic phosphopeptide corresponding to residues surrounding Ser280 of human Chk1.

Positive control: 293T treated with 100nM Calyculin A for 15 minutes cell lysate, NIH/3T3 treated with 100nM Calyculin A for 30 minutes cell lysate, PC-12 treated with 100nM Calyculin A for 30 minutes cell lysate.

Subcellular location: Nucleus, Chromosome, Cytoplasm, cytoskeleton, microtubule organizing center, centrosome.

Database links: SwissProt: O14757 Human | O35280 Mouse | Q91ZN7 Rat

Recommended Dilutions:

WB	1:1,000

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

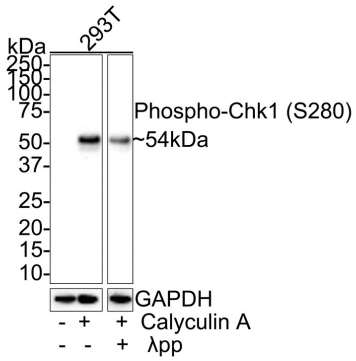

Fig1: Western blot analysis of Phospho-Chk1 (S280) on different lysates with Rabbit anti-Phospho-Chk1 (S280) antibody (HA721471) at 1/1,000 dilution.

Lane 1: 293T whole cell lysate
Lane 2: 293T treated with 100nM Calyculin A for 15 minutes cell lysate
Lane 3: 293T treated with 100nM Calyculin A for 15 minutes cell lysate, then the membrane treated with λpp for 1 hour

Lysates/proteins at 20 µg/Lane.

Predicted band size: 54 kDa
Observed band size: 54 kDa

Exposure time: 4 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721471) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

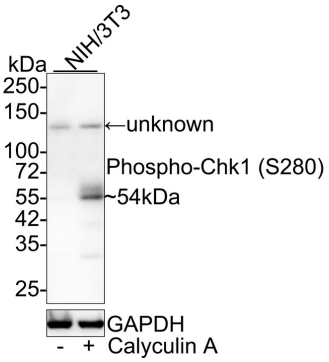

Fig2: Western blot analysis of Phospho-Chk1 (S280) on different lysates with Rabbit anti-Phospho-Chk1 (S280) antibody (HA721471) at 1/1,000 dilution.

Lane 1: NIH/3T3 cell lysate
Lane 2: NIH/3T3 treated with 100nM Calyculin A for 30 minutes cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 54 kDa
Observed band size: 54 kDa

Exposure time: 1 minute 2 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721471) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

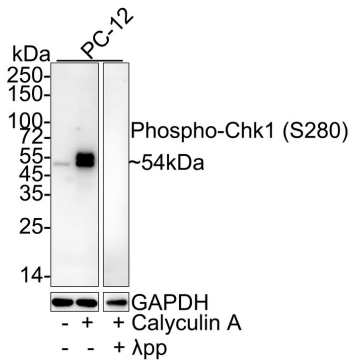

Fig3: Western blot analysis of Phospho-Chk1 (S280) on different lysates with Rabbit anti-Phospho-Chk1 (S280) antibody (HA721471) at 1/1,000 dilution.

Lane 1: PC-12 whole cell lysate
Lane 2: PC-12 treated with 100nM Calyculin A for 30 minutes cell lysate
Lane 3: PC-12 treated with 100nM Calyculin A for 30 minutes cell lysate, then the membrane treated with λpp for 1 hour

Lysates/proteins at 20 µg/Lane.

Predicted band size: 54 kDa
Observed band size: 54 kDa

Exposure time: 4 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721471) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

Background References

1. Mehta KPM et al. CHK1 phosphorylates PRIMPOL to promote replication stress tolerance. Sci Adv. 2022 Apr
2. Klomp JE et al. CHK1 protects oncogenic KRAS-expressing cells from DNA damage and is a target for pancreatic cancer treatment. Cell Rep. 2021 Nov