

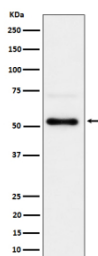
Phospho-Chk1 (Ser280) Antibody / Checkpoint kinase 1 [clone 31C46] (FY12496)

Catalog No.	Formulation	Size
FY12496	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

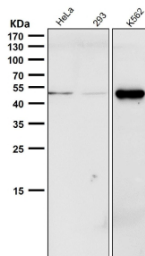
Recombinant **RABBIT MONOCLONAL**

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Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31C46
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	O14757
Applications	Western Blot : 1:500-1:2000
Limitations	This Phospho-Chk1 (Ser280) antibody is available for research use only.



Western blot analysis of Phospho-Chk1 (S280) expression in 293T treated with Calyculin A cell lysate, using Phospho-Chk1 (Ser280) antibody.



All lanes use the Phospho-Chk1 (Ser280) antibody at 1:1K dilution for 1 hour at room temperature.

Description

Phospho-Chk1 (Ser280) antibody detects checkpoint kinase 1 when phosphorylated at serine 280. Chk1 is a serine threonine kinase encoded by the CHEK1 gene and functions as a key regulator of the DNA damage response. Phosphorylation at Ser280 influences subcellular localization and activity, thereby modulating cell cycle progression and checkpoint control. This modification integrates signals from replication stress and genotoxic damage, ensuring genomic stability.

Phospho-Chk1 (Ser280) antibody is widely used in DNA damage, cell cycle, and cancer research. By specifically detecting the phosphorylated form, it enables distinction between active checkpoint signaling and basal kinase levels. Chk1 activation at Ser280 supports ATR mediated responses to stalled replication forks, allowing cells to pause progression and repair damage.

The antibody is suitable for western blotting, immunohistochemistry, and immunofluorescence. Western blot assays reveal bands corresponding to phosphorylated Chk1 distinct from unmodified forms. Immunohistochemistry maps phosphorylation patterns within tissues, while immunofluorescence highlights nuclear distribution during checkpoint activation. These tools allow precise monitoring of checkpoint signaling in experimental systems.

Dysregulation of Chk1 phosphorylation contributes to oncogenesis by enabling survival of cells with damaged DNA. Elevated phospho Chk1 levels have been observed in tumors, where they correlate with therapy resistance. By applying Phospho-Chk1 (Ser280) antibody, scientists can explore how checkpoint signaling influences cancer progression and therapeutic outcomes. It is also valuable for evaluating Chk1 inhibitors under development as cancer treatments.

Beyond cancer, Chk1 phosphorylation at Ser280 plays roles in embryonic development and stem cell biology, where it maintains genome stability during rapid proliferation. The phospho specific antibody provides a useful tool for probing these functions in developmental and regenerative contexts.

Phospho-Chk1 (Ser280) antibody from NSJ Bioreagents offers reliable specificity for monitoring checkpoint activation, supporting research into DNA repair, replication stress, and targeted cancer therapies.

Application Notes

Optimal dilution of the Phospho-Chk1 (Ser280) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Chk1 (S280) was used as the immunogen for the Phospho-Chk1 (Ser280) antibody.

Storage

Store the Phospho-Chk1 (Ser280) antibody at -20oC.

