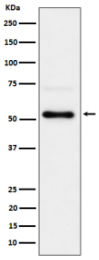
Phospho-CHK1 (pSer280) Antibody / CHK1 Regulation and Signaling Cross-Talk Marker [clone 31C46] (FY12496)

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

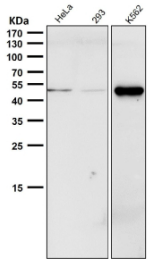
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Host	Rabbit
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 (pSer280) Antibody / CHK1 Regulation and Signaling Cross-Talk Marker is available for research use only.



Phospho-CHK1 Antibody 293T WB. Western blot analysis of human 293T cell lysate treated with Calyculin A using phospho-CHK1 antibody detecting CHK1 phosphorylated at Ser280, clone 31C46. A band is observed at approximately 54 kDa, consistent with the predicted molecular weight of CHK1. Detection under phosphatase inhibition conditions supports phosphorylation-dependent regulation of CHK1 and signaling cross-talk with cellular pathways.



All lanes use the Phospho-CHK1 (pSer280) Antibody at 1:1000 dilution for 1 hour at room temperature.

Description

Checkpoint kinase 1 (CHEK1), also known as CHK1, is a critical regulator of the DNA damage response that coordinates cell cycle checkpoints and maintains genomic stability. Phospho-CHK1 (pSer280) Antibody, clone 31C46, is designed to detect CHK1 phosphorylated at serine 280, a regulatory site associated with modulation of CHK1 activity and signaling cross-talk with other cellular pathways. Unlike autophosphorylation sites that directly reflect kinase activation, Ser280 phosphorylation is linked to regulation of CHK1 function and integration of upstream signaling inputs.

Phosphorylation of CHK1 at Ser280 has been associated with signaling pathways beyond the canonical ATR-CHK1 axis, including potential regulation by kinases such as AKT. This modification is thought to influence CHK1 localization, stability, and interaction with other regulatory proteins. As a result, detection of Ser280 phosphorylation provides insight into how CHK1 activity is modulated in response to broader cellular signaling environments.

Unlike phosphorylation at Ser296, which reflects direct activation of CHK1 kinase activity during DNA damage response, Ser280 phosphorylation represents a regulatory modification that may fine-tune CHK1 function. This distinction makes Ser280 a useful marker for studying pathway cross-talk and regulatory mechanisms that influence checkpoint signaling rather than serving as a direct indicator of checkpoint activation.

Phosphorylation at Ser280 may occur under conditions of cellular stress, growth factor signaling, or metabolic regulation, reflecting integration of multiple signaling pathways. Detection of this site can therefore provide additional context for understanding how CHK1 activity is coordinated with other signaling networks within the cell.

Subcellularly, phosphorylated CHK1 is observed in both nuclear and cytoplasmic compartments depending on cellular conditions and regulatory state. Changes in localization may reflect shifts in CHK1 function or interaction with different signaling complexes. Immunodetection typically reveals variable staining patterns consistent with its role in dynamic regulation.

Dysregulation of CHK1 regulatory phosphorylation contributes to altered checkpoint control and may influence sensitivity to DNA damage or therapeutic agents. Understanding phosphorylation at sites such as Ser280 provides insight into how checkpoint signaling is modulated in cancer and other disease contexts.

Phospho-CHK1 (pSer280) Antibody, clone 31C46, enables detection of this regulatory phosphorylation event, supporting studies of CHK1 modulation, signaling cross-talk, and pathway integration. For analysis of DNA damage checkpoint activation, see our Phospho-CHK1 (Ser296) Antibody page.

Application Notes

Optimal dilution of the Phospho-CHK1 (pSer280) Antibody / CHK1 Regulation and Signaling Cross-Talk Marker 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 (pSer280) Antibody.

Storage

Store the Phospho-CHK1 (pSer280) Antibody at -20oC.

Alternate Names

Phospho CHK1 antibody, CHK1 pSer280 antibody, CHK1 Ser280 antibody, CHEK1 phospho antibody, CHEK1 Ser280 antibody, phosphorylated CHK1 antibody, CHK1 regulatory phosphorylation antibody, AKT CHK1 signaling antibody, clone 31C46 antibody