

35-1465: Polyclonal Antibody to Chk1 (Ab-317)

Clonality :	Polyclonal
Application :	WB,IHC
Reactivity :	Human
Gene :	CHEK1
Gene ID :	1111
Uniprot ID :	O14757
Format :	Purified
Alternative Name :	CHEK1
Isotype :	Rabbit IgG
Immunogen Information :	Peptide sequence around aa.315~319 (S-S-S-Q-P) derived from Human Chk1.

Description

Chk1 is a protein kinase that inhibits mitotic entry after DNA damage, required for the DNA damage checkpoint and is strongly similar to murine Chk1. Checkpoint pathways control the order and timing of cell cycle transitions and ensure that critical events, such as DNA replication and chromosome segregation, are completed with high fidelity. The mouse and human proteins share 90% sequence identity through the protein kinase domains. The sequence of the 476-amino acid human Chk1 protein is 29%, 40%, and 44% identical to those of the fission yeast Chk1, *C. elegans* Chk1, and *Drosophila* 'grapes' (Grp) proteins, respectively. Chk1 is expressed ubiquitously as an approximately 2.4-kb mRNA, with the most abundant expression in thymus, testis, small intestine, and colon. The protein has altered mobility when isolated from cells treated with ionizing radiation, indicating that Chk1 is modified in response to DNA damage. In vitro, Chk1 directly phosphorylates a regulator of CDC2 tyrosine phosphorylation, CDC25C. In response to DNA damage, Chk1 phosphorylates and inhibits CDC25C, thus preventing activation of the CDC2-Cyclin-B complex and mitotic entry Zhang YW, et al. (2005) Mol Cell; 19(5): 607-18. Bhoomik A, et al. (2005) Mol Cell; 18(5): 577-87. Rocha S, et al. (2005) EMBO J. Clarke CA, et al. (2005) Biochem J. Yu X, et al. (2004) Mol Cell Biol; 24(21): 9478-86.

Product Info

Amount :	50 µl / 100 µl
Content :	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage condition :	Store the antibody at 4°C, stable for 6 months. For long-term storage, store at -20°C. Avoid repeated freeze and thaw cycles.

Application Note

Predicted MW: 56kd, Western blotting: 1:500~1:1000, Immunohistochemistry: 1:50~1:100

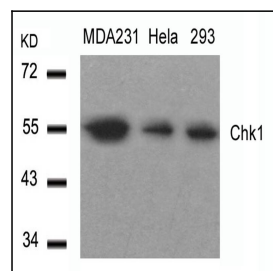


Figure 1: Western blot analysis of extracts from MDA231, HeLa and 293 cells using Chk1 (Ab-317) Antibody 35-1465 .

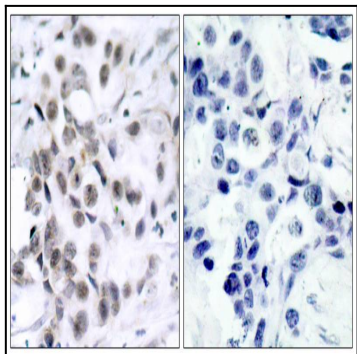


Figure 2: Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using Chk1 (Ab-317) Antibody 35-1465 (left) or the same antibody preincubated with blocking peptide(right).