



# Chk1 Polyclonal Antibody

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Catalog No</b>                  | YP-Ab-16710                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Isotype</b>                     | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Reactivity</b>                  | Human;Mouse;Rat                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Applications</b>                | WB;IHC;IF;ELISA                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Gene Name</b>                   | CHEK1                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Immunogen</b>                   | The antiserum was produced against synthesized peptide derived from human Chk1. AA range:286-335                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Specificity</b>                 | Chk1 Polyclonal Antibody detects endogenous levels of Chk1 protein.                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Formulation</b>                 | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Source</b>                      | Polyclonal, Rabbit,IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Purification</b>                | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.                                                                                                                                                                                                                                                                                                                                                         |
| <b>Dilution</b>                    | Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications.                                                                                                                                                                                                                                                                                                                  |
| <b>Concentration</b>               | 1 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Purity</b>                      | ≥90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Storage Stability</b>           | -20°C/1 year                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Synonyms</b>                    | CHEK1;CHK1;Checkpoint kinase-1;CHEK 1;Chk 1;Serine/threonine-protein kinase Chk1;CHK1 checkpoint homolog;Cell cycle checkpoint kinase                                                                                                                                                                                                                                                                                                                                         |
| <b>Observed Band</b>               | 54kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Calculated Molecular Weight</b> | 54kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Cell Pathway</b>                | Nucleus . Chromosome . Cytoplasm . Cytoplasm, cytoskeleton, microtubule organizing center, centrosome . Nuclear export is mediated at least in part by XPO1/CRM1 (PubMed:12676962). Also localizes to the centrosome specifically during interphase, where it may protect centrosomal CDC2 kinase from inappropriate activation by cytoplasmic CDC25B (PubMed:15311285). Proteolytic cleavage at the C-terminus by SPRTN promotes removal from chromatin (PubMed:31316063). . |
| <b>Tissue Specificity</b>          | Expressed ubiquitously with the most abundant expression in thymus, testis, small intestine and colon.                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Function</b>                    | catalytic activity:ATP + a protein = ADP + a phosphoprotein.,domain:The autoinhibitory region (AIR) inhibits the activity of the kinase domain.,function:Required for checkpoint mediated cell cycle arrest in response to DNA                                                                                                                                                                                                                                                |



damage or the presence of unreplicated DNA. May also negatively regulate cell cycle progression during unperturbed cell cycles. Recognizes the substrate consensus sequence [R-X-X-S/T]. Binds to and phosphorylates CDC25A, CDC25B and CDC25C. Phosphorylation of CDC25A at 'Ser-178' and 'Thr-507' and phosphorylation of CDC25C at 'Ser-216' creates binding sites for 14-3-3 proteins which inhibit CDC25A and CDC25C. Phosphorylation of CDC25A at 'Ser-76', 'Ser-124', 'Ser-178', 'Ser-279' and 'Ser-293' promotes proteolysis of CDC25A. Inhibition of CDC25 activity leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. Binds

#### Background

The protein encoded by this gene belongs to the Ser/Thr protein kinase family. It is required for checkpoint mediated cell cycle arrest in response to DNA damage or the presence of unreplicated DNA. This protein acts to integrate signals from ATM and ATR, two cell cycle proteins involved in DNA damage responses, that also associate with chromatin in meiotic prophase I. Phosphorylation of CDC25A protein phosphatase by this protein is required for cells to delay cell cycle progression in response to double-strand DNA breaks. Several alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Oct 2011],

#### matters needing attention

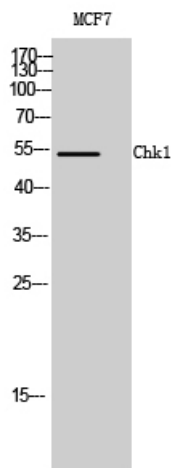
Avoid repeated freezing and thawing!

#### Usage suggestions

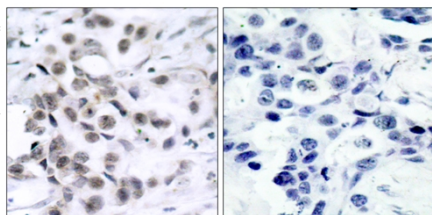
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



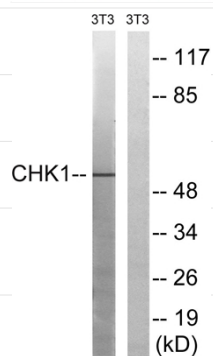
## Products Images



Western Blot analysis of MCF7 cells using Chk1 Polyclonal Antibody



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma tissue, using Chk1 Antibody. The picture on the right is blocked with the synthesized peptide.



Western blot analysis of lysates from NIH/3T3 cells, using Chk1 Antibody. The lane on the right is blocked with the synthesized peptide.