

#3440 Store at -20°C

Chk2 (1C12) Mouse mAb



✓ 100 µl
(10 western blots)

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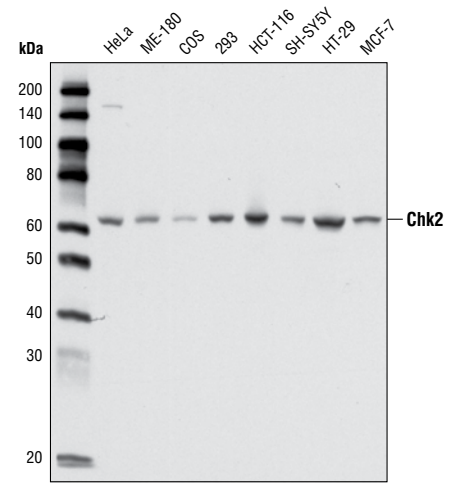
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

| Applications | Species Cross-Reactivity* | Molecular Wt. | Isotype |
|-------------------------------|---------------------------|---------------|---------------|
| W, IHC-P, IF-IC Endogenous | H, Mk | 62 kDa | Mouse IgG2b** |

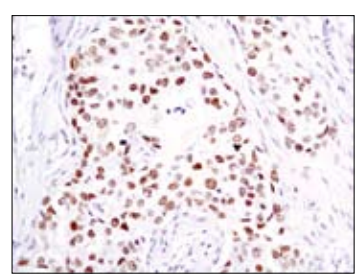
Background: Chk2 is the mammalian orthologue of the budding yeast Rad53 and fission yeast Cds1 checkpoint kinases (1-3). The amino-terminal domain of Chk2 contains a series of seven serine or threonine residues (Ser19, Thr26, Ser28, Ser33, Ser35, Ser50 and Thr68) each followed by glutamine (SQ or TQ motif). These are known to be preferred sites for phosphorylation by ATM/ATR kinases (4,5). After DNA damage by ionizing radiation (IR), UV irradiation or hydroxyurea treatment, Thr68 and other sites in this region become phosphorylated by ATM/ATR (5-7). The SQ/TQ cluster domain, therefore, seems to have a regulatory function. Phosphorylation at Thr68 is a prerequisite for the subsequent activation step, which is attributable to auto-phosphorylation of Chk2 on residues Thr383 and Thr387 in the activation loop of the kinase domain (8).

Specificity/Sensitivity: Chk2 (1C12) Mouse mAb detects endogenous levels of total Chk2 protein.

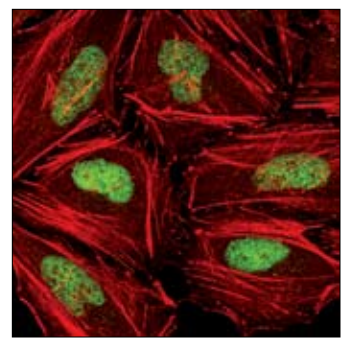
Source/Purification: Monoclonal antibody is produced by immunizing animals with truncated recombinant GST-Chk2.



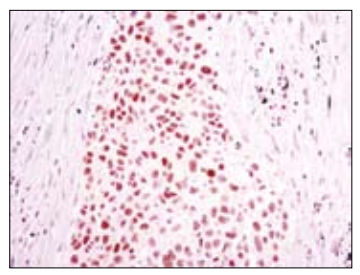
Western blot analysis of extracts from various cell types using Chk2 (1C12) Mouse mAb.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma using Chk2 (1C12) Mouse mAb.



Confocal immunofluorescent analysis of HeLa cells using Chk2 (1C12) Mouse mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red).



Immunohistochemical analysis of paraffin-embedded human lung carcinoma using Chk2 (1C12) Mouse mAb.

Entrez-Gene ID #11200
Swiss-Prot Acc. #096017

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

| | |
|--|---------------------------------------|
| Western blotting | 1:1000 |
| Immunohistochemistry (Paraffin) | 1:3200† |
| Unmasking buffer: | Citrate |
| Antibody diluent: | SignalStain® Antibody Diluent #8112 |
| Detection reagent: | SignalStain® Boost (HRP, Mouse) #8125 |
| † Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent. | |
| Immunofluorescence (IF-IC) | 1:200 |

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Allen, J.B. et al. (1994) *Genes Dev.* 8, 2401–2415.
- (2) Weinert, T.A. et al. (1994) *Genes Dev.* 8, 652–665.
- (3) Murakami, H. and Okayama, H. (1995) *Nature* 374, 817–819.
- (4) Kastan, M.B. and Lim, D.S. (2000) *Nat. Rev. Mol. Cell Biol.* 1, 179–186.
- (5) Matsuoka, S. et al. (2000) *Proc. Natl. Acad. Sci. USA* 97, 10389–10394.
- (6) Melchionna, R. et al. (2000) *Nat. Cell Biol.* 2, 762–765.
- (7) Ahn, J.Y. et al. (2000) *Cancer Res.* 60, 5934–5936.
- (8) Lee, C.H. and Chung, J.H. (2001) *J. Biol. Chem.* 276, 30537–30541.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.