

# Phospho-Chk2 (Thr68) Blocking Peptide



✓ 100 µg

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**For Research Use Only. Not For Use In Diagnostic Procedures.**

**Description:** This peptide is used to block Phospho-Chk2 (Thr68) (80F5) Rabbit mAb #2197 reactivity.

**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 at residues Thr383 and Thr387 in the activation loop of the kinase domain (8).

**Quality Control:** The quality of this peptide was evaluated by reverse-phase HPLC and by mass spectrometry. The peptide blocks Phospho-Chk2 (Thr68) (80F5) Rabbit mAb #2197 signal completely in peptide dot blot.

**Directions for Use:** Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. Recommended antibody dilution can be found on the relevant product data sheet.

**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.

Entrez-Gene ID #11200  
UniProt ID # O96017

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol, and 1% DMSO. Store at -20°C. *Do not aliquot the antibody.*

**For product specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

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