

Mouse Chk2 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP14706b**Specification**

Mouse Chk2 Antibody (C-term) Blocking Peptide - Product InformationPrimary Accession [Q9Z265](#)**Mouse Chk2 Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 50883**Other Names**

Serine/threonine-protein kinase Chk2, CHK2 checkpoint homolog, Checkpoint kinase 2, Chk2, Chk2, Rad53

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Chk2 Antibody (C-term) Blocking Peptide - Protein Information**Name** Chk2**Synonyms** Chk2, Rad53**Function**

Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest, activation of DNA repair and apoptosis in response to the presence of DNA double-strand breaks. May also negatively regulate cell cycle progression during unperturbed cell cycles. Following activation, phosphorylates numerous effectors preferentially at the consensus sequence [L-X-R-X-X-S/T]. Regulates cell cycle checkpoint arrest through phosphorylation of CDC25A, CDC25B and CDC25C, inhibiting their activity. Inhibition of CDC25 phosphatase activity leads to increased inhibitory tyrosine phosphorylation of CDK- cyclin complexes and blocks cell cycle progression. May also phosphorylate NEK6 which is involved in G2/M cell cycle arrest. Regulates DNA repair through phosphorylation of BRCA2, enhancing the association of RAD51 with chromatin which promotes DNA repair by homologous recombination. Also stimulates the transcription of genes involved in DNA repair (including BRCA2) through the phosphorylation and activation of the transcription factor FOXM1. Regulates apoptosis through the phosphorylation of p53/TP53, MDM4 and PML. Phosphorylation of p53/TP53 at 'Ser-20' by CHEK2 may alleviate inhibition by MDM2, leading to accumulation of active p53/TP53. Phosphorylation of MDM4 may also reduce degradation of p53/TP53. Also controls the transcription of pro-apoptotic genes through

phosphorylation of the transcription factor E2F1. Tumor suppressor, it may also have a DNA damage-independent function in mitotic spindle assembly by phosphorylating BRCA1. Its absence may be a cause of the chromosomal instability observed in some cancer cells. Promotes the CCAR2-SIRT1 association and is required for CCAR2-mediated SIRT1 inhibition (By similarity).

Cellular Location

Nucleus, PML body. Nucleus, nucleoplasm. Note=Recruited into PML bodies together with TP53

Tissue Location

Ubiquitously expressed with higher levels in the thymus, spleen and colon (at protein level)

Mouse Chek2 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

Mouse Chek2 Antibody (C-term) Blocking Peptide - Images**Mouse Chek2 Antibody (C-term) Blocking Peptide - Background**

Chek2 regulates cell cycle checkpoints and apoptosis in response to DNA damage, particularly to DNA double-strand breaks. Inhibits CDC25C phosphatase by phosphorylation, preventing the entry into mitosis. May also play a role in meiosis. Regulates the TP53 tumor suppressor through phosphorylation at 'Thr-20' and 'Ser-23'.

Mouse Chek2 Antibody (C-term) Blocking Peptide - References

Meyer, S.E., et al. Cancer Lett. 296(2):186-193(2010)Niida, H., et al. EMBO J. 29(20):3558-3570(2010)Nalapareddy, K., et al. EMBO Rep. 11(8):619-625(2010)Rotolo, J.A., et al. Cancer Res. 70(3):957-967(2010)Jankovic, M., et al. Proc. Natl. Acad. Sci. U.S.A. 107(1):187-192(2010)