

Product datasheet for **AP02432PU-N**

Chk2 (CHEK2) pSer516 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	Suitable for use in Western blot (1:500~1:1000).
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	The antiserum was produced against synthesized phosphopeptide derived from human Chk2 around the phosphorylation site of serine 516 (Q-P-SP-T-S).
Specificity:	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site. Chk2 (phospho-Ser516) antibody detects endogenous levels of Chk2 only when phosphorylated at serine 516.
Formulation:	PBS (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150 mM NaCl, 0.02% Sodium Azide and 50% Glycerol. State: Aff - Purified State: Liquid purified Ig fraction.
Concentration:	lot specific
Purification:	Immunoaffinity chromatography.
Conjugation:	Unconjugated
Storage:	Store the antibody (in aliquots) at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: One year from despatch.
Gene Name:	checkpoint kinase 2
Database Link:	Entrez Gene 11200 Human O96017



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Background:

Chk2 is a serine/threonine kinase involved in the control of cell cycle checkpoints, and may also participate in transduction of the DNA damage and replicational stress signals. Chk2 is the mammalian ortholog of the budding yeast Rad53 and fission yeast Cds1 checkpoint kinases. The amino-terminal domain of Chk2 contains a series of seven serine and threonine residues (Ser19, Thr26, Ser28, Ser33, Ser35, Ser50 and Thr68) followed by glutamine (SQ or TQ motif). These are known to be preferred sites for phosphorylation by ATM/ATR kinases. Indeed, after DNA damage by ionizing radiation (IR), UV irradiation or hydroxyurea treatment, Thr68 and other sites in this region become phosphorylated by ATM/ATR. 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 autophosphorylation of Chk2 on residues Thr383 and Thr387 in the activation loop of the kinase domain. Chk2 inhibits CDC25C phosphatase by phosphorylating it on Ser-216, preventing the entry into mitosis. This kinase may have a role in meiosis as well. Kinase activity is up regulated by autophosphorylation and the protein is rapidly phosphorylated in response to DNA damage and to replication block.

Defects in Chk2 are associated with Li-Fraumeni syndrome (LFS); a highly penetrant familial cancer phenotype usually associated with inherited mutations in p53/TP53. Defects in Chk2 are also found in some patients with prostate cancer (CaP) or osteosarcoma (OSRC). Substantial amino acid variants exist in some cancer tissues. Numerous truncated splice variants exist for this protein.

Synonyms:

CHEK2, CHEK-2, CHK-2, RAD53, Cds1

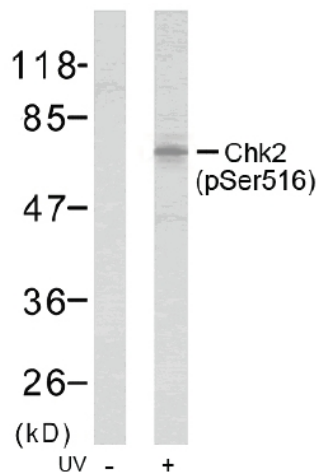
Product images:

Figure 1. Western blot analysis of extracts from HeLa cells using Chk2 (phospho-Ser516) antibody.