

Phospho-CDK2 (Thr160) Antibody

✓ Small 100 μ l
(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.	Source
W, IP, E-P, F Endogenous	H, M, R	33 kDa	Rabbit**

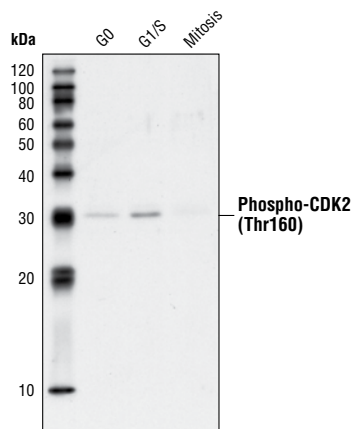
Background: Cyclin-dependent kinase 2 (p33CDK2) is an important component of the cell cycle machinery. Like p34cdc2, kinase activity is regulated by association with a cyclin subunit, by its phosphorylation state and by association with a CDK inhibitor. Inhibitory phosphorylation occurs on Thr14 and Tyr15 (1). Inhibition of CDK2-cyclin complexes can also be attributed to association with p27Kip1 and p21Waf1/Cip1 (2). Activation of CDK2 complexes requires dephosphorylation of Thr14 and Tyr15 by cdc25 phosphatase and phosphorylation of Thr160 (3), which is mediated by CAK, a complex of CDK7 and cyclin H (4). CDK2/cyclin E kinase activity is important for the G1 to S transition and phosphorylation of the Rb protein. During S-phase, active CDK2/cyclin A complexes predominate and phosphorylate E2F and the active CDK2 complex persists in the nucleus throughout G2 (5).

Specificity/Sensitivity: Phospho-CDK2 (Thr160) Antibody detects endogenous levels of CDK2 only when phosphorylated at threonine 160. The antibody weakly cross-reacts with cdc2 phosphorylated at Thr161. It does not cross-react with other phosphorylated cyclin dependent kinases.

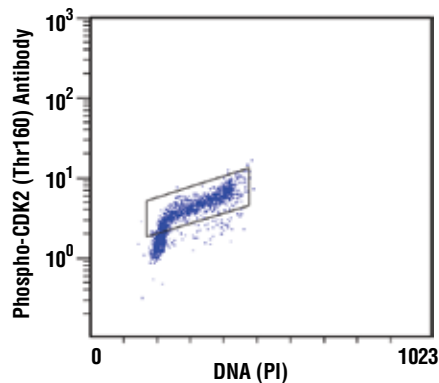
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr160 of human CDK2. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Morgan, D.O. (1995) *Nature* 374, 131-134.
- (2) Poon, R.Y. et al. (1996) *J. Biol. Chem.* 271, 13283-13291.
- (3) Gu, Y. et al. (1992) *EMBO J.* 11, 3995-4005.
- (4) Fesquet, D. et al. (1993) *EMBO J.* 12, 3111-3121.
- (5) Morgan, D.O. (1997) *Annu. Rev. Cell Dev. Biol.* 13, 261-291.



Western blot analysis of extracts from HeLa cells synchronized in G0, G1/S or Mitosis, using Phospho-CDK2 (Thr160) Antibody.



Flow cytometric analysis of untreated Jurkat cells, using Phospho-CDK2 (Thr160) Antibody versus propidium iodide (DNA content). The boxed population indicates phospho-CDK2 (Thr160)-positive cells.

Entrez-Gene ID #1017

Swiss-Prot Acc. #P24941

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

*Species cross-reactivity is determined by western blot.

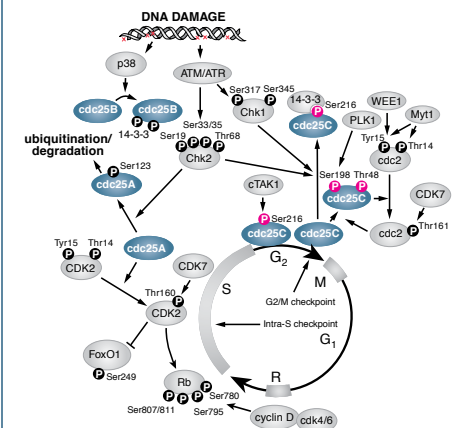
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:150
ELISA-Peptide	1:2000
Flow Cytometry	1:25

For application specific protocols please see the web page for this product at www.cellsignal.com.

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



IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 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.