

# Phospho-cdc2 (Thr161) Antibody

✓ 100 µl  
(10 western blots)

**Orders** ■ 877-616-CELL (2355)  
orders@cellsignal.com  
**Support** ■ 877-678-TECH (8324)  
info@cellsignal.com  
**Web** ■ www.cellsignal.com

rev. 06/17/10

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 Endogenous	H, M, R	34 kDa	Rabbit**

**Background:** The entry of eukaryotic cells into mitosis is regulated by cdc2 kinase activation, a process controlled at several steps including cyclin binding and phosphorylation of cdc2 at Thr161 (1). However, the critical regulatory step in activating cdc2 during progression into mitosis appears to be dephosphorylation of cdc2 at Tyr15 and Thr14 (2). Phosphorylation at Thr14 and Tyr15 resulting in inhibition of cdc2 can be carried out by Wee1 and Myt1 protein kinases (3,4). The cdc25 phosphatase may be responsible for removal of phosphates at Thr14 and Tyr15 and subsequent activation of cdc2 (1,5).

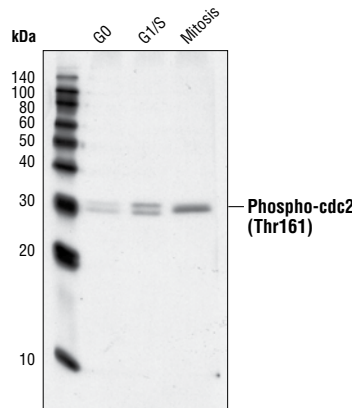
cdc2 activation and association with cyclin A require phosphorylation at Thr161 by the CDK-activating kinase CAK, a complex of CDK7 and cyclin H (7,8).

**Specificity/Sensitivity:** Phospho-cdc2 (Thr161) Antibody detects endogenous levels of cdc2 only when phosphorylated at threonine 161. The antibody cross-reacts with endogenous CDK2 phosphorylated at threonine 160.

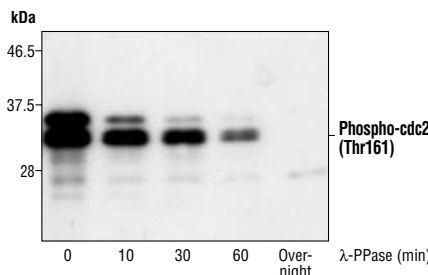
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr161 of human cdc2. Antibodies are purified by protein A and peptide affinity chromatography.

**Background References:**

- (1) Atherton-Fessler, S. et al. (1994) *Mol. Biol. Cell.* 5, 989-1001.
- (2) Norbury, C. et al. (1991) *EMBO J.* 10, 3321-3329.
- (3) McGowan, C.H. and Russell, P. (1993) *EMBO J.* 12, 75-85.
- (4) Wells, N.J. et al. (1999) *J. Cell. Sci.* 112, 3361-3371.
- (5) Hunter, T. (1995) *Cell* 80, 225-236.
- (6) Fesquet, D. et al. (1993) *EMBO J.* 12, 3111-3121.
- (7) Ducommun, B. et al. (1991) *EMBO J.* 10, 3311-3319.



Western blot analysis of extracts from HeLa cells synchronized in G0, G1/S, or M phase, using Phospho-cdc2 (Thr161) Antibody.



Western blot analysis of cdc2 kinase treated with λ protein phosphatase (λ-PPase) for the indicated times, using Phospho-cdc2 (Thr161) Antibody.

Entrez-Gene ID #983  
Swiss-Prot Acc. #P06493

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

\*Species cross-reactivity is determined by western blot.

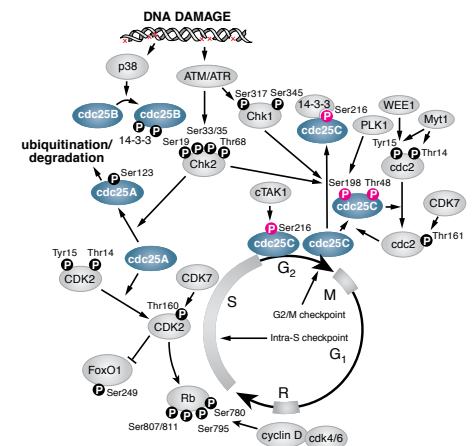
\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:50

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

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.



**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% 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.