#9114 Store at –20°C

# Phospho-cdc2 (Thr161) Antibody

Cell Signaling TECHNOLOGY®

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

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

| Applications | Species Cross-Reactivity* | Molecular Wt. | Source |
|---|---|---|---|
| W<br>Endogenous | H, M, R, Mk | 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.

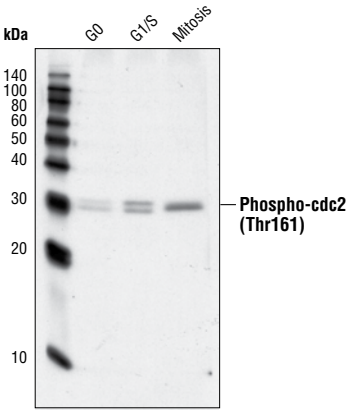
(3) McGowan, C.H. and Russell, P. (1993) *EMBO J.* 12, 75-85.

(4) Wells, N.J. et al. (1999) *J. Cell. Sci.* 112, 3361-3371.

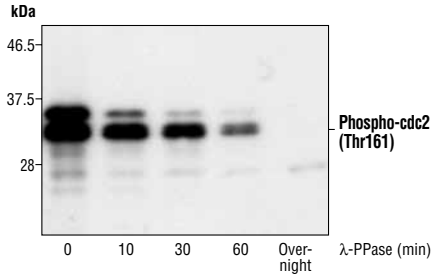
(5) Hunter, T. (1995) *Cell* 80, 225-236.

(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.*

**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 |

**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% 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.