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:

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.