

Anti-phospho-CDK1 (Tyr15)

Rabbit Polyclonal Antibody

Catalog # C22-65R

Lot # J1274-10

Cited Applications

WB

Suggested Dilutions:

WB 1:1,000

Ideal working dilutions for each application should be empirically determined by the investigator.

Specificity

Recognizes the CDK1 protein phosphorylated at tyrosine 15

Cross Reactivity

Human, Mouse, Rat, Zebrafish and Xenopus

Host/Isotype/Clone#

Rabbit, IgG

Immunogen

Synthetic phospho-peptide corresponding to amino acid residues surrounding Tyr15 conjugated to KLH

Formulation

100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.

Scientific Background

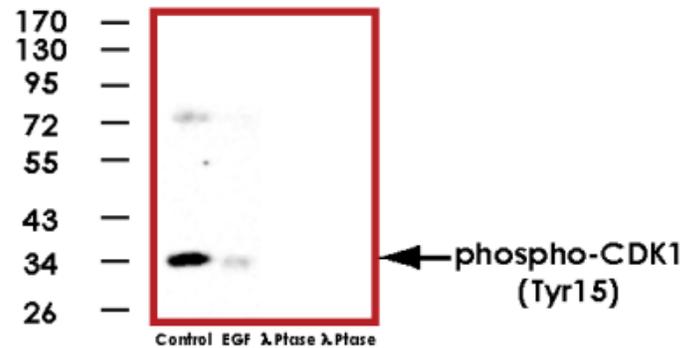
Cell Division Control protein 1 (CDK1) is a highly conserved protein serine kinase. CDK1 is a catalytic subunit of the conserved eukaryotic protein kinase complex called that M-Phase Promoting Factor, which plays a key role in regulation of the cell cycle (1). CDK1 is essential for the completion of START, the controlling event in the cell cycle that is required to initiate mitosis. The ability of CDK1 to exercise control over the cell cycle is dependent upon the phosphorylation of Tyr15 in cdc2 (2). CDK1 expression in brain has been linked to neurogenesis and apoptosis (3,4). In addition, CDK1 is a potential pharmaceutical target for prostate cancer therapy (5).

References

1. Maller, J.L.: Mitotic control. *Curr Opin Cell Biol* 1991 3:269-275.
2. Nakamizo, A. et al: Suppression of cdc2 dephosphorylation at the tyrosine 15 residue during nitrosourea-induced G2M phase arrest in glioblastoma cell lines. *J Neurooncol* 2002 59:7-13.
3. Konishi Y et al: The E2F-cdc2 cell-cycle pathway specifically mediates activity deprivation-induced apoptosis of postmitotic neurons. *J Neurosci* 2003 23:1649-1658.
4. Dranovsky, A. et al. cdc2 phosphorylation of nucleolin demarcates mitotic stages and Alzheimer's disease pathology. *Neurobiol Aging* 2001 22:517-528.

5. Rigas, A.C. et al: Therapeutic potential of CDK inhibitor NU2058 in androgen-independent prostate cancer. *Oncogene* 2007 Dec 6;26(55):7611-9.

Sample Data



Western blot of human T47D cells showing specific immunolabeling of the ~34kDa CDK1 phosphorylated at Tyr15 (Control). Treatment with EGF (30 ng per ml for 30 min) caused dephosphorylation of the Tyr15 on CDK1 (Lane 2). The phosphospecificity of this labeling is also shown in the third and fourth lanes (lambda-phosphatase: lambda-Ptase). These blots are identical to the control except that they were incubated in lambda-Ptase (1200 units for 30 min) before being exposed to Anti-phospho-CDK1 (Tyr15). The immunolabeling is completely eliminated by treatment with lambda-Ptase.

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Purification

Affinity chromatography

Stability

1yr at -20°C from date of shipment

Storage & Shipping

Store product at -20°C. For optimal storage, aliquot antibody into smaller quantities after centrifugation and store at recommended temperature.

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