Cdk1 (Tyr-15), phospho-specific [Conserved site]

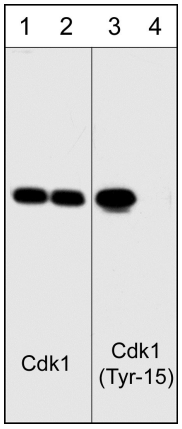
Cat. # CM2311
Host Mouse Monoclonal IgG1
Size 100 µl

Background:

Cyclin-dependent kinases (Cdks) are a family of serine/threonine kinases that require association with regulatory subunits known as cyclins for activation. In addition, post-translational phosphorylation and dephosphorylation events regulate Cdk activity. Phosphorylation of Thr -160 in the T loop by Cdk-activating kinase (CAK) is an obligatory step in kinase activation. By contrast, phosphorylation of the Thr-14 and Tyr-15 residues by the Wee1 family of dual specificity kinases is inhibitory for the Cdks, and dephosphorylation of these residues by the Cdc25 family of phosphatases coincides with Cdk activation. Alternatively, Cdk5 appears to require different mechanisms for activation. This Cdk is activated through association with specific activators, including p35, p39, and p67. Cdk5 is primarily activated in neuronal cells, and only c-Abl kinase, rather than Wee family members, have been shown to phosphorylate Tyr-15 to regulate its activity.

References

Poon, R.Y.C. et al. (1997) J Biol. Chem. 272(9):5703.
Zukerberg, L. R. (2000) Neuron 26:633.
Lee, J.H. et al. (2008) J Biol. Chem. May 19 epub.



Western blot analysis of human SYF fibroblasts before (lanes 1 & 3) and after (lanes 2 & 4) treatment with alkaline phosphatase. The blots were probed with anti-Cdk1 (N-terminal region) antibody (lanes 1 & 2) or anti-Cdk1 (Tyr -15) phospho-specific antibody (lanes 3 & 4).

Immunogen:

Phospho-Cdk1 (Tyr-15) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding Tyr-15 in human Cdk1. This sequence is conserved in rat and mouse Cdk1, and is highly conserved in other Cdks, including Cdk2, Cdk3, Cdk5, and Cdk6.

Buffer and Storage:

Mouse monoclonal antibody purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Do not aliquot. Stable for 1 year.

Applications:

WB	1:250
ELISA	1:1000

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

Specificity:

The antibody detects a 34 kDa* band corresponding to Cdk1 on SDS-PAGE immunoblots of human SYF and HeLa cells, and this band is removed after alkaline phosphatase treatment. The antibody may also detect Tyr-15 phosphorylation in Cdk2, Cdk3, Cdk5, and Cdk6.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Related Products:

CM2261 Cdk1 (N-terminal region) Mouse Monoclonal
CM2361 Cdk5 Mouse Monoclonal

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