

#2549 Store at -20°C

Phospho-CDK9 (Thr186) Antibody


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	42, 55	Rabbit	#P50750	1025

Product Usage Information	Application Western Blotting	Dilution 1:1000
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.	
Specificity / Sensitivity	Phospho-CDK9 (Thr186) Antibody detects endogenous levels of CDK9 only when phosphorylated at Thr186. The antibody recognizes both the 42 kDa isoform and the less abundant 55 kDa isoform.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr186 of human CDK9. Antibodies are purified using peptide affinity chromatography.	
Background	<p>P-TEFb is a general transcription factor that regulates transcription elongation through phosphorylation of the C-terminal tail domain (CTD) of RNA polymerase II (RNAP II). The P-TEFb complex is composed of a catalytic subunit, CDK9, and its regulatory cyclin partner, which can be cyclin T1, T2a, T2b or K (reviewed in 1,2). P-TEFb is recruited by the HIV Tat protein to allow transcriptional elongation, and subsequent replication of the viral genome. Inhibition of P-TEFb function therefore has potential for HIV therapy. CDK9 exists as two isoforms, an abundant 42 kDa isoform, and a less abundant 55 kDa isoform, which contains an amino-terminal extension (3). The two forms likely have distinct purposes based on differential expression during lymphocyte activation (4,5) and on their localization within the nucleus (5). Cyclin dependent kinases (CDKs) are activated in part by cyclin binding and by phosphorylation of a conserved threonine in the T-loop domain. Phosphorylation of CDK9 at the T-loop Thr186 by an unidentified nuclear kinase may be important in P-TEFb activation (6) and regulation of HIV transcription (7). Acetylation of CDK9 at Lys44 affects its ability to phosphorylate the RNAPII CTD (8).</p>	
Background References	<ol style="list-style-type: none"> 1. Rice, A.P. and Herrmann, C.H. (2003) <i>Curr HIV Res</i> 1, 395-404. 2. De Falco, G. and Giordano, A. (2002) <i>Cancer Biol Ther</i> 1, 342-7. 3. Shore, S.M. et al. (2003) <i>Gene</i> 307, 175-82. 4. Shore, S.M. et al. (2005) <i>Gene</i> 350, 51-8. 5. Liu, H. and Herrmann, C.H. (2005) <i>J Cell Physiol</i> 203, 251-60. 6. Chen, R. et al. (2004) <i>J Biol Chem</i> 279, 4153-60. 7. Ammosova, T. et al. (2005) <i>Retrovirology</i> 2, 47. 8. Fu, J. et al. (2007) <i>Mol Cell Biol</i> 27, 4641-51. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus 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 GP: Guinea Pig Rab: rabbit All: all species expected
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