

#11973 Store at -20°C

CDK12 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, IP	H Mk	Endogenous	205	Rabbit	#Q9NYV4	51755

Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:50
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	CDK12 Antibody recognizes endogenous levels of total CDK12 protein. This antibody also cross-reacts with proteins of unknown origin at 48 and 53 kDa.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val492 of human CDK12 protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	Cyclin-dependent kinase 12 (CDK12/CRKRS/CRK7) is composed of a central CTD kinase domain, several proline-rich regions, and several amino-terminal arginine/serine (RS) motifs common to splicing factors (1). CDK12 is ubiquitously expressed and forms a complex with cyclin K that regulates phosphorylation of the C-terminal domain (CTD) of RNA polymerase II (1-4). CDK12 is important for expression of a subset of long genes with high numbers of exons including some regulators of the DNA damage response, such as breast and ovarian cancer type 1 susceptibility protein 1 (BRCA1) and ataxia telangiectasia and Rad3-related (ATR) (3). Depletion of CDK12 results in spontaneous DNA damage and increased sensitivity to DNA damage agents (3). Research studies have shown that CDK12 is recurrently mutated in high-grade ovarian cancer (5,6). In addition, high levels of CDK12 are required to maintain pluripotency of embryonic stem cells (7).	
Background References	1. Ko, T.K. et al. (2001) <i>J Cell Sci</i> 114, 2591-603. 2. Bartkowiak, B. et al. (2010) <i>Genes Dev</i> 24, 2303-16. 3. Blazek, D. et al. (2011) <i>Genes Dev</i> 25, 2158-72. 4. Cheng, S.W. et al. (2012) <i>Mol Cell Biol</i> 32, 4691-704. 5. The Cancer Genome Atlas Research Network (2011) <i>Nature</i> 474, 609-15. 6. Carter, S.L. et al. (2012) <i>Nat Biotechnol</i> 30, 413-21. 7. Dai, Q. et al. (2012) <i>J Biol Chem</i> 287, 25344-52.	

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IP: Immunoprecipitation
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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