

**APC1 (D1E9D) Rabbit mAb**

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk	Endogenous	216	Rabbit IgG	#Q9H1A4	64682

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:200

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

APC1 (D1E9D) Rabbit mAb recognizes endogenous levels of total APC1 protein.

**Species predicted to react based on 100% sequence homology**

Dog, Pig, Horse

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human APC1 protein.

**Background**

Eukaryotic cell proliferation depends strictly upon the E3 ubiquitin ligase activity of the anaphase promoting complex/cyclosome (APC/C), whose main function is to trigger the transition of the cell cycle from metaphase to anaphase. The APC/C complex promotes the assembly of polyubiquitin chains on substrate proteins in order to target these proteins for degradation by the 26S proteasome (1,2). The vertebrate APC/C complex consists of as many as 15 subunits, including multiple scaffold proteins, two catalytic subunits (APC2, APC11), and a number of proteins responsible for substrate recognition (3). All E3 enzymes, including APC/C, utilize ubiquitin residues activated by E1 enzymes and transferred to E2 enzymes. Research studies indicate that APC/C interacts with the E2 enzymes UBE2S and UBE2C via the RING-finger domain-containing subunit APC11 (4-6). APC/C function relies on multiple cofactors, including an APC/C coactivator formed by the cell division control protein 20 homolog (CDC20) and Cdh1/FZR1. The CDC20/Cdh1 coactivator is responsible for recognition of APC/C substrates through interaction with specific D-box and KEN-box recognition elements within these substrates (7-9). The ubiquitously expressed anaphase-promoting complex subunit 1 (APC1) is the largest subunit of the APC/C complex (10). Research studies demonstrate that APC1 undergoes extensive phosphorylation on serine and threonine residues during the mitotic phase of the eukaryotic cell cycle (11).

**Background References**

1. Qiao, X. et al. (2010) *Cell Cycle* 9, 3904-12.
2. Harper, J.W. et al. (2002) *Genes Dev* 16, 2179-206.
3. Chang, L. et al. (2014) *Nature* 513, 388-93.
4. Carroll, C.W. and Morgan, D.O. (2002) *Nat Cell Biol* 4, 880-7.
5. Gmachl, M. et al. (2000) *Proc Natl Acad Sci U S A* 97, 8973-8.
6. Leverson, J.D. et al. (2000) *Mol Biol Cell* 11, 2315-25.
7. Kraft, C. et al. (2005) *Mol Cell* 18, 543-53.
8. Glotzer, M. et al. (1991) *Nature* 349, 132-8.
9. Pflieger, C.M. and Kirschner, M.W. (2000) *Genes Dev* 14, 655-65.
10. Jörgensen, P.M. et al. (2001) *Gene* 262, 51-9.
11. Kraft, C. et al. (2003) *EMBO J* 22, 6598-609.

**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**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **Mk:** Monkey

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