Revision 1

#13329 Store at -20C

# APC1 (D1E9D) Rabbit mAb

Cell Signaling TECHNOLOGY®

**Orders:** 877-616-CELL (2355)
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

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

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 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

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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.
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8. Glotzer, M. et al. (1991) *Nature* 349, 132-8.
9. Pfleger, 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

**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

## Trademarks and Patents



## Limited Uses