

APC3 Antibody

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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 | H M R Mk | Endogenous | 97 | Rabbit | #P30260 | 996 |

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

APC3 Antibody recognizes endogenous levels of total APC3 protein. This antibody does not cross-react with either APC8/CDC23 or APC6/CDC16.

Species predicted to react based on 100% sequence homology

Hamster, Xenopus, Bovine, Dog, Pig, Horse, Guinea Pig

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human APC3 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Cell proliferation in all eukaryotic cells depends strictly upon the ubiquitin ligase (E3) 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. APC/C performs its various functions by promoting the assembly of polyubiquitin chains on substrate proteins, which targets these proteins for degradation by the 26S proteasome (1,2). In humans, twelve different APC/C subunits have been identified. Like all E3 enzymes, APC/C utilizes ubiquitin residues that have been activated by E1 enzymes and then transferred to E2 enzymes. Indeed, APC/C has been shown to interact with UBE2S and UBE2C E2 enzymes, in part, via the RING-finger domain-containing subunit, APC11 (3-5). APC/C activity is also strictly dependent upon its association with multiple cofactors. For example, the related proteins, Cdc20 and Cdh1/FZR1, participate in the recognition of APC/C substrates by interacting with specific recognition elements in these substrates (6), called D-boxes (7) and KEN-boxes (8). Anaphase-promoting complex subunit 3 (APC3), APC8, and APC6 are components of the tetratricopeptide (TPR) APC/C subcomplex (9). The presence of APC3 is required for binding of Cdh1/FZR1 to the APC/C. This suggests that APC/C is activated by an association between Cdh1/FZR1 with APC3 that enables APC/C to recognize the D-box of substrates (6,10). APC3 localizes to the centrosome and the mitotic spindle, suggesting that APC3 plays a critical role in the transition from metaphase to anaphase (11). Phosphorylation of APC3 at multiple sites during mitosis likely leads to structural changes within the APC/C by altering subunit interactions or changing affinity for molecules that transiently associate with the APC/C, such as Cdh1/FZR1 (12,13).

Background References

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5. Leversson, J.D. et al. (2000) *Mol Biol Cell* 11, 2315-25.
6. Kraft, C. et al. (2005) *Mol Cell* 18, 543-53.
7. Glotzer, M. et al. (1991) *Nature* 349, 132-8.
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10. Vodermaier, H.C. et al. (2003) *Curr Biol* 13, 1459-68.
11. Tugendreich, S. et al. (1995) *Cell* 81, 261-8.
12. Topper, L.M. et al. *Cell Cycle* 1, 282-92.
13. 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

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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