



Qty: 100 µg/400 µl

Rabbit anti-APC2

Catalog No. 34-2900

Lot No. See product label

Rabbit anti-APC2

FORM

This polyclonal antibody is supplied as a 400 µl aliquot at a concentration of 0.25 mg/ml in phosphate buffered saline (PBS), pH 7.4, containing 0.1% sodium azide (NaN₃). The antibody is epitope-affinity-purified from rabbit antiserum.

POLYCLONAL ANTIBODY DESIGNATION (PAD): ZMD.11

ISOTYPE: Rabbit Ig

IMMUNOGEN

A synthetic peptide derived from the C-terminus of human APC2 protein.

SPECIFICITY

This antibody reacts specifically with the ~ 100 kDa APC2 protein, and it co-immunoprecipitates with APC11.

REACTIVITY

This antibody is confirmed reactive with human and mouse APC2. Reactivity was confirmed by Western blotting and immunoprecipitation. Positive controls include HeLa and NIH-3T3 cell lysates. The reactivity of this antibody with other species has not been determined.

Sample	Immuno-precipitation	Western blotting
Human	positive	positive
Mouse	positive	positive
<i>E. coli</i>	nt	positive

nt-not tested

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1-3 µg/ml

Immunoprecipitation: 10 µg

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI342900

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BACKGROUND

The anaphase-promoting complex (APC) is a cell cycle-regulated ubiquitin-protein ligase, and composed of protein subunits, such as APC1 (BimE), APC2, APC3 (CDC27), APC6 (CDC16), APC8 (CDC23)... etc. Nine APC subunits have been identified in vertebrates and eleven are known in budding yeast^(1,2). APC plays important roles in mitosis, for example the initiation of anaphase and the exit from telophase^(1,3). To initiate sister chromatid separation, the APC has to ubiquitinate the anaphase inhibitor securin, whereas exit from mitosis requires the APC-mediated ubiquitination of B-type cyclins. These cellular reactions require the activation of the APC by CDC20 and CDH1, which transiently associate with the APC at the end of mitosis and in G₁, respectively.

Recently, Yu, H., et al identified that APC2 is a distant member of the cullin family, a family of proteins implicated in the ubiquitination of G₁ phase cyclins and cyclin-dependent kinase inhibitors⁽⁴⁾. APC2 contains a region that shares sequence similarity with cullins, and the CH (cullin homology) region may perform similar biochemical functions in both systems, such as binding ubiquitin or the ubiquitin-conjugating enzymes. In another recent study⁽⁵⁾, Ohta, T. et al identified two highly conserved RING finger proteins, ROC1 and ROC2, that are homologous to APC11. ROC1 and ROC2 commonly interact with all cullins, whereas APC11 specifically interacts with APC2. Also, APC11 alone is sufficient to catalyze the ubiquitination of APC substrates in the presence of E1 and the E2 enzyme UBC4⁽⁶⁾. As a result, combinations of ROC, APC and cullin proteins potentially constitute a wide variety of ubiquitin ligases.

REFERENCES

1. Zachariae, W. & Nasmyth, K.; *Genes Dev.* 13:2039-2058 (1999).
2. Peters, J-M.; *Exp. Cell Res.* 248:339-349 (1999).
3. Morgan, D.O.; *Nat. Cell Biol.* 1:E47-E53 (1999).
4. Yu, H., et al; *Science* 279:1219-1222 (1998).
5. Ohta, T., et al; *Mol. Cell* 3(4):535-541 (1999).
6. Gmachl, M., et al; *PNAS* 97:8973-8978 (2000).

RELATED PRODUCTS

Primary antibodies	Clone or PAD*	Cat. No.
Rb anti-APC11	ZMD.08	34-2600
Rb anti-CUL-1	ZL18	71-8700
Rb anti-CUL-2	CT2	51-1800
Rb anti-CUL-2	NCT	51-2000
Rb anti-CUL-3	ZMD.04	34-2200
Rb anti-CDC34	ZMD.09	34-2700
Ms anti-MDM2	1F2	33-7100
Rb anti-ROC1C	ZMD.07	34-2500
Ms anti-Ubiquitin	Ubi-1	13-1600
Ms anti-UBC3	2E3B5	32-2000
Rb anti-UBC3	HC34	71-9900
Rb anti-UNP	CSM-11	71-8900

*PAD- polyclonal antibody designation

Conjugate	ZyMAX™ Goat anti-Rabbit IgG (H+L)	ZyMAX™ Goat anti-Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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