

# APC10 (G-20): sc-21425

## BACKGROUND

Composed of more than ten subunits, the anaphase-promoting complex (APC) acts in a cell-cycle dependent manner to promote the separation of sister chromatids during the transition between metaphase and anaphase in mitosis. APC, or cyclosome, accomplishes this progression through the ubiquitination of mitotic cyclins and other regulatory proteins that are targeted for destruction during cell division. APC is phosphorylated, and thus activated, by protein kinases Cdk1/cyclin B and polo-like kinase (Plk). APC is under tight control by a number of regulatory factors, including CDC20, CDH1 and MAD2. Specifically, CDC20 and CDH1 directly bind to and activate APCs cyclin-ubiquitination activity. In contrast, MAD2 inhibits APC by forming a ternary complex with CDC20 and APC; thus preventing APC activation. APC10 contains a Doc1 homology domain, which is a  $\beta$ -sandwich structure common to many other putative E3 ubiquitin ligases. APC10 binds to core APC subunits throughout the cell cycle. Specifically, APC10 binds to the C-terminus of CDC27/APC3. During mitosis, APC10 is localized in centrosomes and mitotic spindles. APC10 also localizes to kinetochores from prophase to anaphase, and to the midbody in telophase and cytokinesis.

## REFERENCES

1. Jorgensen, P.M., et al. 1998. A subunit of the anaphase-promoting complex is a centromere-associated protein in mammalian cells. *Mol. Cell. Biol.* 18: 468-476.
2. Page, A.M., et al. 1999. The anaphase-promoting complex: new subunits and regulators. *Annu. Rev. Biochem.* 68: 583-609.
3. Peters, J.M. 1999. Subunits and substrates of the anaphase-promoting complex. *Exp. Cell Res.* 248: 339-349.
4. Fang, G., et al. 1999. Control of mitotic transitions by the anaphase-promoting complex. *Phil. Trans. R. Soc. Lond. B. Biol. Sci.* 354: 1583-1590.
5. Kurasawa, Y., et al. 1999. Identification of human APC10/Doc1 as a subunit of anaphase promoting complex. *Oncogene* 18: 5131-5137.
6. Wendt, K.S., et al. 2001. Crystal structure of the APC10/DOC1 subunit of the human anaphase-promoting complex. *Nat. Struct. Biol.* 8: 784-788.
7. Golan, A., et al. 2002. The cyclin-ubiquitin ligase activity of cyclosome/APC is jointly activated by protein kinases Cdk1/cyclin B and Plk. *J. Biol. Chem.* 277: 15552-15557.

## CHROMOSOMAL LOCATION

Genetic locus: SSB (human) mapping to 4q31.21; Ssb (mouse) mapping to 8 C2.

## SOURCE

APC10 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of APC10 of human origin.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21425 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

APC10 (G-20) is recommended for detection of APC10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

APC10 (G-20) is also recommended for detection of APC10 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for APC10 siRNA (h): sc-37532, APC10 siRNA (m): sc-37533, APC10 shRNA Plasmid (h): sc-37532-SH, APC10 shRNA Plasmid (m): sc-37533-SH, APC10 shRNA (h) Lentiviral Particles: sc-37532-V and APC10 shRNA (m) Lentiviral Particles: sc-37533-V.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.