

# APC10 (FL-185): sc-20989

## 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 APC's 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. *Philos. 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. Bolte, M., et al. 2002. Inhibition of APC-mediated proteolysis by the meiosis-specific protein kinase Ime2. *Proc. Natl. Acad. Sci. USA* 99: 4385-4390.

## CHROMOSOMAL LOCATION

Genetic locus: ANAPC10 (human) mapping to 4q31.21; Anapc10 (mouse) mapping to 8 C2.

## SOURCE

APC10 (FL-185) is a rabbit polyclonal antibody raised against amino acids 1-185 representing full length APC10 of human origin.

## PRODUCT

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

## APPLICATIONS

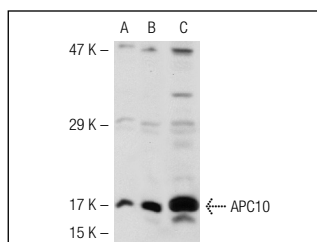
APC10 (FL-185) is recommended for detection of APC10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

APC10 (FL-185) is also recommended for detection of APC10 in additional species, including equine, canine, bovine, porcine and avian.

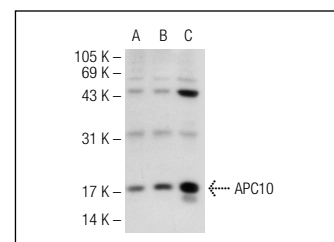
Suitable for use as control antibody for APC10 siRNA (h): sc-37532, APC10 siRNA (m): sc-37533, APC10 shRNA Plasmid (h): sc-37532-SH, APC10 shRNA Plasmid (m): sc-37533-SH, APC10 shRNA (h) Lentiviral Particles: sc-37532-V and APC10 shRNA (m) Lentiviral Particles: sc-37533-V.

Positive Controls: APC10 (h): 293T Lysate: sc-176849, APC10 (m): 293T Lysate: sc-118460 or HeLa whole cell lysate: sc-2200.

## DATA



APC10 (FL-185): sc-20989. Western blot analysis of APC10 expression in non-transfected 293T: sc-117752 (A), mouse APC10 transfected 293T: sc-118460 (B) and HeLa (C) whole cell lysates.



APC10 (FL-185): sc-20989. Western blot analysis of APC10 expression in non-transfected 293T: sc-117752 (A), human APC10 transfected 293T: sc-176849 (B) and Jurkat (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Ray, D., et al. 2012. Experimental validation of Ankrd17 and Anapc10, two novel meiotic genes predicted by computational models in mice. *Biol. Reprod.* 86: 102.

## STORAGE

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

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **APC10 (B-1): sc-166790**, our highly recommended monoclonal alternative to APC10 (FL-185).