SANTA CRUZ BIOTECHNOLOGY, INC.

APC10 (B-1): sc-166790

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 the cyclin-ubiquitination activity of APCs. 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 β-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.

CHROMOSOMAL LOCATION

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

SOURCE

APC10 (B-1) is a mouse monoclonal antibody raised against amino acids 1-185 representing full length APC10 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APC10 (B-1) is available conjugated to agarose (sc-166790 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166790 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166790 PE), fluorescein (sc-166790 FITC), Alexa Fluor® 488 (sc-166790 AF488), Alexa Fluor® 546 (sc-166790 AF546), Alexa Fluor® 594 (sc-166790 AF594) or Alexa Fluor® 647 (sc-166790 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166790 AF680) or Alexa Fluor® 790 (sc-166790 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

APC10 (B-1) is recommended for detection of APC10 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

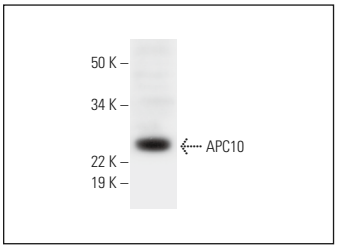
APC10 (B-1) is also recommended for detection of APC10 in additional species, including equine, canine and bovine.

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.

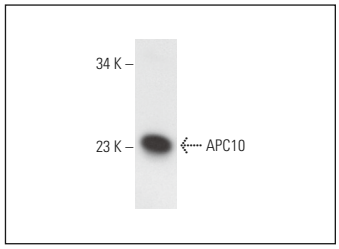
Molecular Weight of APC10: 21 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



APC10 (B-1): sc-166790. Western blot analysis of APC10 expression in Jurkat whole cell lysate.



APC10 (B-1): sc-166790. Western blot analysis of APC10 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Liu, J., et al. 2016. CDH1 inhibits WWP2-mediated ubiquitination of PTEN to suppress tumorigenesis in an APC-independent manner. Cell Discov. 2: 15044.
2. Salsi, V., et al. 2016. NUP98 fusion oncoproteins interact with the APC/C (Cdc20) as a pseudosubstrate and prevent mitotic checkpoint complex binding. Cell Cycle 15: 2275-2287.
3. Allan, L.A., et al. 2018. Atypical APC/C-dependent degradation of Mcl-1 provides an apoptotic timer during mitotic arrest. EMBO J. 37: e96831.
4. Kim, W., et al. 2019. Hippo signaling is intrinsically regulated during cell cycle progression by APC/C^{Cdh1}. Proc. Natl. Acad. Sci. USA 116: 9423-9432.
5. Han, T., et al. 2019. Interplay between c-Src and the APC/C co-activator Cdh1 regulates mammary tumorigenesis. Nat. Commun. 10: 3716.
6. Lau, H.W., et al. 2021. Quantitative differences between cyclin-dependent kinases underlie the unique functions of CDK1 in human cells. Cell Rep. 37: 109808.

RESEARCH USE

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