

RP1 (F-11): sc-390375

BACKGROUND

APC (adenomatous polyposis coli) is a tumor suppressor gene that is frequently mutated in colorectal cancers and is one of the earliest indicators of colorectal carcinogenesis. APC is widely expressed and is largely similar to the related brain-specific homolog APCL. These proteins both associate with β -catenin and functionally regulate the levels of intracellular β -catenin. Additionally, these homologs interact with the microtubule cytoskeletal protein EB1 to regulate cell cycle progression or growth control. EB1 family proteins (EB1, RP1 (EB2) and EB3) interact with cytoplasmic microtubules in interphase cells, with mitotic spindles, and with the APC tumor suppressor gene. The functional inactivation of the APC gene product is a key event in colorectal tumorigenesis. RP1 is localized in the plus ends of microtubule networks in the presence or absence of APC. The gene which encodes RP1 maps to human chromosome 18q12.1.

REFERENCES

- Cottrell, S., et al. 1992. Molecular analysis of APC mutations in familial adenomatous polyposis and sporadic colon carcinomas. *Lancet* 340: 626-630.
- Su, L.K., et al. 1993. Association of the APC tumor suppressor protein with catenins. *Science* 262: 1734-1737.
- Nakagawa, H., et al. 1998. Identification of a brain-specific APC homologue, APCL, and its interaction with β -catenin. *Cancer Res.* 58: 5176-5181.
- Morrison, E.E., et al. 1998. EB1, a protein which interacts with the APC tumour suppressor, is associated with the microtubule cytoskeleton throughout the cell cycle. *Oncogene* 17: 3471-3477.
- Juwana, J.P., et al. 1999. EB/RP gene family encodes Tubulin binding proteins. *Int. J. Cancer* 81: 275-284.

CHROMOSOMAL LOCATION

Genetic locus: MAPRE2 (human) mapping to 18q12.1; Mapre2 (mouse) mapping to 18 A2.

SOURCE

RP1 (F-11) is a mouse monoclonal antibody raised against amino acids 237-327 mapping at the C-terminus of RP1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RP1 (F-11) is available conjugated to agarose (sc-390375 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390375 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390375 PE), fluorescein (sc-390375 FITC), Alexa Fluor[®] 488 (sc-390375 AF488), Alexa Fluor[®] 546 (sc-390375 AF546), Alexa Fluor[®] 594 (sc-390375 AF594) or Alexa Fluor[®] 647 (sc-390375 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390375 AF680) or Alexa Fluor[®] 790 (sc-390375 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

RP1 (F-11) is recommended for detection of RP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for RP1 siRNA (h): sc-37609, RP105 siRNA (m): sc-40253, RP1 shRNA Plasmid (h): sc-37609-SH, RP105 shRNA Plasmid (m): sc-40253-SH, RP1 shRNA (h) Lentiviral Particles: sc-37609-V and RP105 shRNA (m) Lentiviral Particles: sc-40253-V.

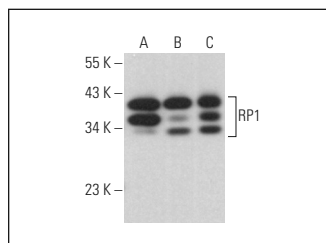
Molecular Weight of RP1: 35 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or IMR-32 cell lysate: sc-2409.

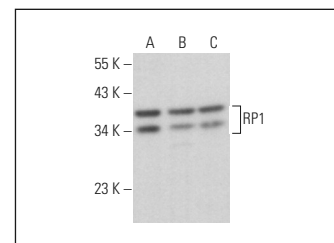
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



RP1 (F-11): sc-390375. Western blot analysis of RP1 expression in K-562 (A), IMR-32 (B) and HEL 92.1.7 (C) whole cell lysates.



RP1 (F-11): sc-390375. Western blot analysis of RP1 expression in WEHI-231 (A), BYDP (B) and Neuro-2A (C) whole cell lysates.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.