



RP1 (m2): 293T Lysate: sc-123259

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

1. Cottrell, S., et al. 1992. Molecular analysis of APC mutations in familial adenomatous polyposis and sporadic colon carcinomas. *Lancet* 340: 626-630.
2. Su, L.K., et al. 1993. Association of the APC tumor suppressor protein with catenins. *Science* 262: 1734-1737.
3. Nakagawa, H., et al. 1998. Identification of a brain-specific APC homologue, APCL, and its interaction with β -catenin. *Cancer Res.* 58: 5176-5181.
4. 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.
5. Juwana, J.P., et al. 1999. EB/RP gene family encodes tubulin binding proteins. *Int. J. Cancer* 81: 275-284.
6. Nakagawa, H., et al. 2000. APCL, a central nervous system-specific homologue of adenomatous polyposis coli tumor suppressor, binds to p53-binding protein 2 and translocates it to the perinucleus. *Cancer Res.* 60: 101-105.
7. Su, L.K., et al. 2001. Characterization of human MAPRE genes and their proteins. *Genomics* 71: 143-149.
8. Wadle, A., et al. 2001. Chromosomal localization and promoter analysis of the adenomatous polyposis coli binding protein RP1. *Oncogene* 20: 5920-5929.
9. LocusLink Report (LocusID: 605789). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Mapre2 (mouse) mapping to 18 A2.

PRODUCT

RP1 (m2): 293T Lysate represents a lysate of mouse RP1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

RP1 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive RP1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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