SANTA CRUZ BIOTECHNOLOGY, INC.

EB1 (N-18): sc-6413

BACKGROUND

EB1 (end-binding protein 1), also known as microtubule-associated protein RP/EB family member 1 (MAPRE1) or APC-binding protein EB1, may influence tumorigenesis of colorectal cancers and proliferative control of normal cells. EB1 belongs to the intermediate/early gene family, involved in the signal transduction cascade downstream of the T cell receptor (TRC). Colorectal cancer is caused by the pathologic transformation of normal colonic epithelium to an adenomatous polyp, which can become an invasive cancer. APC (adenomatous polyposis coli) is a tumor suppressor gene, the mutation of which is one of the earliest events in colorectal carcinogenesis. A majority of the mutations result in the loss of the carboxy terminus of APC. EB1 has been shown to bind to the carboxy terminal region of APC, which implicates EB1 in APC suppression of colonic cancer. EB1 overexpression may play a role in the development of human esophageal squamous cell carcinoma by affecting APC function and activating the β-catenin/TCF pathway.

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. 1995. APC binds to the novel protein EB1. Cancer Res. 55: 2972-2977.
3. Tirnauer, J.S. and Bierer, B.E. 2000. EB1 proteins regulate microtubule dynamics, cell polarity, and chromosome stability. J. Cell Biol. 149: 761-766.
4. Slep, K.C., et al. 2005. Structural determinants for EB1-mediated recruitment of APC and spectraplakins to the microtubule plus end. J. Cell Biol. 168: 587-598.
5. Bieling, P., et al. 2008. CLIP-170 tracks growing microtubule ends by dynamically recognizing composite EB1/tubulin-binding sites. J. Cell Biol. 183: 1223-1233.

CHROMOSOMAL LOCATION

Genetic locus: MAPRE1 (human) mapping to 20q11.21; Mapre1 (mouse) mapping to 2 H1.

SOURCE

EB1 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of EB1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6413 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

EB1 (N-18) is recommended for detection of EB1 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).

EB1 (N-18) is also recommended for detection of EB1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for EB1 siRNA (h): sc-35258, EB1 siRNA (m): sc-35257, EB1 shRNA Plasmid (h): sc-35258-SH, EB1 shRNA Plasmid (m): sc-35257-SH, EB1 shRNA (h) Lentiviral Particles: sc-35258-V and EB1 shRNA (m) Lentiviral Particles: sc-35257-V.

Molecular Weight of EB1: 30-38 kDa.

Positive Controls: SW480 cell lysate: sc-2219, COLO 320DM cell lysate: sc-2226 or HISM cell lysate: sc-2229.

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.

SELECT PRODUCT CITATIONS

1. Sharma, M., et al. 2006. Membrane localization of adenomatous polyposis coli protein at cellular protrusions: targeting sequences and regulation by β-catenin. J. Biol. Chem. 281: 17140-17149.

RESEARCH USE

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

PROTOCOLS

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