

EB3 (KT36): sc-101475

BACKGROUND

EB1 (MAPRE2, microtubule-associated protein, RP/EB family, member 2, EB2, RP1) may influence tumorigenesis of colorectal cancers and proliferative control of normal cells. EB1 may belong to the intermediate/early gene family, involved in the signal transduction cascade downstream of the TCR. 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 (ESCC) by affecting APC function and activating the β -catenin/TCF pathway. EB3 is related to EB1 and likewise associates with the microtubule cytoskeleton. EB3 is expressed predominantly in the central nervous system and preferentially associates with APCL.

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. Smith, K.J., et al. 1993. The APC gene product in normal and tumor cells. *Proc. Natl. Acad. Sci. USA* 90: 2846-2850.
3. Levy, D.B., et al. 1994. Inactivation of both APC alleles in human and mouse tumors. *Cancer Res.* 54: 5953-5958.
4. Su, L.K., et al. 1995. APC binds to the novel protein EB1. *Cancer Res.* 55: 2972-2977.
5. Oda, H., et al. 1996. Somatic mutations of the APC gene in sporadic hepatoblastomas. *Cancer Res.* 56: 3320-3323.
6. Gryfe, R., et al. 1997. Molecular biology of colorectal cancer. *Curr. Probl. Cancer* 21: 233-300.

CHROMOSOMAL LOCATION

Genetic locus: MAPRE3 (human) mapping to 2p23.3; Mapre3 (mouse) mapping to 5 B1.

SOURCE

EB3 (KT36) is a rat monoclonal antibody raised against full length EB3 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

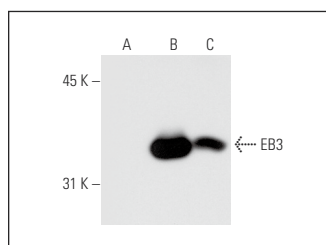
EB3 (KT36) is recommended for detection of EB3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for EB3 siRNA (h): sc-37608, EB3 shRNA Plasmid (h): sc-37608-SH and EB3 shRNA (h) Lentiviral Particles: sc-37608-V.

Molecular Weight of EB3: 32 kDa.

Positive Controls: EB3 (m): 293T Lysate: sc-119900 or mouse brain extract: sc-2253.

DATA



EB3 (KT36): sc-101475. Western blot analysis of EB3 expression in non-transfected: sc-117752 (A) and mouse EB3 transfected: sc-119900 (B) 293T whole cell lysates and mouse brain tissue extract (C).

SELECT PRODUCT CITATIONS

1. Benbow, S.J., et al. 2016. Effects of paclitaxel and eribulin in mouse sciatic nerve: a microtubule-based rationale for the differential induction of chemotherapy-induced peripheral neuropathy. *Neurotox. Res.* 29: 299-313.
2. Benbow, S.J., et al. 2017. Microtubule-targeting agents eribulin and paclitaxel differentially affect neuronal cell bodies in chemotherapy-induced peripheral neuropathy. *Neurotox. Res.* 32: 151-162.
3. Chen, Y.F., et al. 2019. The distinct role of Stim1 and Stim2 in the regulation of store-operated Ca²⁺ entry and cellular function. *J. Cell. Physiol.* 234: 8727-8739.
4. Ma, C., et al. 2023. Fidgetin interacting with microtubule end binding protein EB3 affects axonal regrowth in spinal cord injury. *Neural Regen. Res.* 18: 2727-2732.

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.