

EB1 (1A11/4): sc-47704

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.

CHROMOSOMAL LOCATION

Genetic locus: MAPRE1 (human) mapping to 20q11.21.

SOURCE

EB1 (1A11/4) is a mouse monoclonal antibody raised against EB1 δ C1 mutant.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EB1 (1A11/4) is available conjugated to agarose (sc-47704 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47704 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47704 PE), fluorescein (sc-47704 FITC), Alexa Fluor® 488 (sc-47704 AF488), Alexa Fluor® 546 (sc-47704 AF546), Alexa Fluor® 594 (sc-47704 AF594) or Alexa Fluor® 647 (sc-47704 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47704 AF680) or Alexa Fluor® 790 (sc-47704 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

EB1 (1A11/4) is recommended for detection of EB1 of human, canine and monkey 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

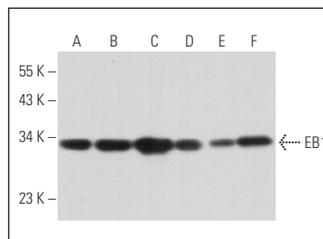
Molecular Weight of EB1: 30-38 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Ramos cell lysate: sc-2216 or HeLa whole cell lysate: sc-2200.

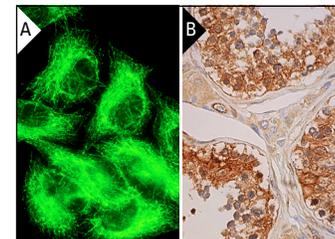
STORAGE

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

DATA



EB1 (1A11/4): sc-47704. Western blot analysis of EB1 expression in HEK293 (A), Jurkat (B), Ramos (C), A-431 (D) and HeLa (E) whole cell lysates and human brain tissue extract (F).



EB1 (1A11/4): sc-47704. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts (B).

SELECT PRODUCT CITATIONS

- Bowen, J.R., et al. 2011. Septin GTPases spatially guide microtubule organization and plus end dynamics in polarizing epithelia. *J. Cell Biol.* 194: 187-197.
- Stroud, M.J., et al. 2014. GAS2-like proteins mediate communication between microtubules and Actin through interactions with end-binding proteins. *J. Cell Sci.* 127: 2672-2682.
- Byron, A., et al. 2015. A proteomic approach reveals integrin activation state-dependent control of microtubule cortical targeting. *Nat. Commun.* 6: 6135.
- Gemoll, T., et al. 2017. EB1 protein alteration characterizes sporadic but not ulcerative colitis associated colorectal cancer. *Oncotarget* 8: 54939-54950.
- Procter, D.J., et al. 2018. The HCMV assembly compartment is a dynamic Golgi-derived MTOC that controls nuclear rotation and virus spread. *Dev. Cell* 45: 83-100.
- Nazgiewicz, A., et al. 2019. GAS2-like 1 coordinates cell division through its association with end-binding proteins. *Sci. Rep.* 9: 5805.
- Yeow, Z.Y., et al. 2020. Targeting TRIM37-driven centrosome dysfunction in 17q23-amplified breast cancer. *Nature* 585: 447-452.
- Hammad, A.S., et al. 2021. Phosphorylation of STIM1 at ERK/CDK sites is dispensable for cell migration and ER partitioning in mitosis. *Cell Calcium* 100: 102496.
- Ying, Z., et al. 2022. CCHCR1-astrin interaction promotes centriole duplication through recruitment of CEP72. *BMC Biol.* 20: 240.

RESEARCH USE

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