SANTA CRUZ BIOTECHNOLOGY, INC.

TBC1D5 (E-9): sc-376296

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. TBC1D5 (TBC1 domain family, member 5), also known as KIAA0210, is a 795 amino acid protein that likely acts as a GTPase-activating protein for Rab family members. TBC1D5 contains one Rab-GAP TBC domain and multiple phosphoserine and phosphothreonine residues. The gene encoding TBC1D5 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. De Jonghe, P., et al. 1997. Mutilating neuropathic ulcerations in a chromosome 3q13-q22 linked Charcot-Marie-Tooth disease type 2B family. J. Neurol. Neurosurg. Psychiatry 62: 570-573.
2. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.

CHROMOSOMAL LOCATION

Genetic locus: TBC1D5 (human) mapping to 3p24.3; Tbc1d5 (mouse) mapping to 17 C.

SOURCE

TBC1D5 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 771-794 at the C-terminus of TBC1D5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TBC1D5 (E-9) is available conjugated to agarose (sc-376296 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376296 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376296 PE), fluorescein (sc-376296 FITC), Alexa Fluor® 488 (sc-376296 AF488), Alexa Fluor® 546 (sc-376296 AF546), Alexa Fluor® 594 (sc-376296 AF594) or Alexa Fluor® 647 (sc-376296 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376296 AF680) or Alexa Fluor® 790 (sc-376296 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376296 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

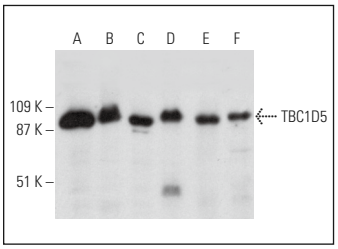
TBC1D5 (E-9) is recommended for detection of TBC1D5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 TBC1D5 siRNA (h): sc-78234, TBC1D5 siRNA (m): sc-154107, TBC1D5 shRNA Plasmid (h): sc-78234-SH, TBC1D5 shRNA Plasmid (m): sc-154107-SH, TBC1D5 shRNA (h) Lentiviral Particles: sc-78234-V and TBC1D5 shRNA (m) Lentiviral Particles: sc-154107-V.

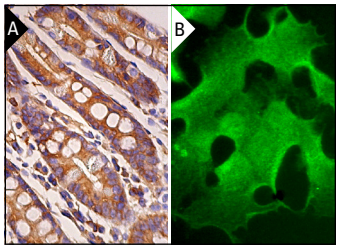
Molecular Weight of TBC1D5: 89 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCD-1064Sk cell lysate: sc-2263 or 3T3-L1 cell lysate: sc-2243.

DATA



TBC1D5 (E-9): sc-376296. Western blot analysis of TBC1D5 expression in Jurkat (**A**), CCD-1064Sk (**B**), RT-4 (**C**), 3T3-L1 (**D**), C3H/10T1/2 (**E**) and H19-7/IGF-IR (**F**) whole cell lysates.



TBC1D5 (E-9): sc-376296. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**A**). Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Roy, S., et al. 2017. Autophagy-dependent shuttling of TBC1D5 controls plasma membrane translocation of Glut1 and glucose uptake. Mol. Cell 67: 84-95.e5.
2. Ahmed, M., et al. 2019. Colocr: an R package for conducting co-localization analysis on fluorescence microscopy images. PeerJ 7: e7255.
3. Xie, J., et al. 2020. TBC1D5-catalyzed cycling of Rab7 is required for retromer-mediated human papillomavirus trafficking during virus entry. Cell Rep. 31: 107750.
4. Nguyen, T.N., et al. 2021. ATG4 family proteins drive phagophore growth independently of the LC3/GABARAP lipidation system. Mol. Cell 81: 2013-2030.e9.
5. Lin, H., et al. 2022. Improving lipophagy by restoring Rab7 cycle: protective effects of quercetin on ethanol-induced liver steatosis. Nutrients 14: 658.

RESEARCH USE

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