SANTA CRUZ BIOTECHNOLOGY, INC.

TBC1D7 (C-9): sc-514595

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TBC1D7 (TBC1 domain family, member 7), also known as PIG51 or cell migration-inducing protein 23, is a 293 amino acid protein that localizes to the cytoplasmic vesicle of the endomembrane in conjunction with the hamartin-tuberin complex. TBC1D7 is thought to function in GTPase activation of Rab proteins, and may negatively regulate hamartin through FRAP activation. Existing as two alternatively spliced isoforms, TBC1D7 is highly expressed in heart and is found at low levels in placenta, kidney and liver. TBC1D7 contains one Rab-GAP TBC domain and is encoded by a gene that maps to human chromosome 6. Chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

1. Brunner, H.G., et al. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. Hum. Mol. Genet. 3: 1561-1564.
2. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. Proc. Natl. Acad. Sci. USA 100: 5956-5961.
3. Nakashima, A., et al. 2007. Identification of TBC7 having TBC domain as a novel binding protein to TSC1-TSC2 complex. Biochem. Biophys. Res. Commun. 361: 218-223.

CHROMOSOMAL LOCATION

Genetic locus: TBC1D7 (human) mapping to 6p24.1; Tbc1d7 (mouse) mapping to 13 A4.

SOURCE

TBC1D7 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-16 at the N-terminus of TBC1D7 of human origin.

PRODUCT

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

TBC1D7 (C-9) is available conjugated to agarose (sc-514595 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514595 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514595 PE), fluorescein (sc-514595 FITC), Alexa Fluor® 488 (sc-514595 AF488), Alexa Fluor® 546 (sc-514595 AF546), Alexa Fluor® 594 (sc-514595 AF594) or Alexa Fluor® 647 (sc-514595 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514595 AF680) or Alexa Fluor® 790 (sc-514595 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514595 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

TBC1D7 (C-9) is recommended for detection of TBC1D7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TBC1D7 siRNA (h): sc-95616, TBC1D7 siRNA (m): sc-154108, TBC1D7 shRNA Plasmid (h): sc-95616-SH, TBC1D7 shRNA Plasmid (m): sc-154108-SH, TBC1D7 shRNA (h) Lentiviral Particles: sc-95616-V and TBC1D7 shRNA (m) Lentiviral Particles: sc-154108-V.

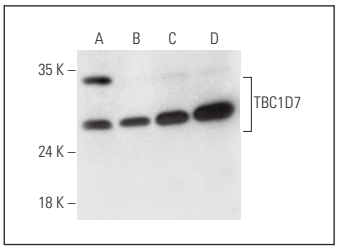
Molecular Weight of TBC1D7 isoforms: 34/31 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caki-1 cell lysate: sc-2224 or JAR cell lysate: sc-2276.

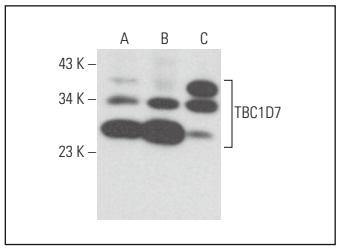
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TBC1D7 (C-9): sc-514595. Western blot analysis of TBC1D7 expression in A-10 (**A**), Hep G2 (**B**), Caki-1 (**C**) and JAR (**D**) whole cell lysates.



TBC1D7 (C-9): sc-514595. Western blot analysis of TBC1D7 expression in Hep G2 (**A**), MDA-MB-435S (**B**) and Neuro-2A (**C**) whole cell lysates.

STORAGE

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

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.