SANTA CRUZ BIOTECHNOLOGY, INC.

TBC1D24 (D-5): sc-390377

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TBC1D24 (TBC1 domain family member 24) is a 559 amino acid cytoplasmic protein that may act as a GTPase-activating protein for Rab family proteins and exists as two alternatively spliced isoforms. TBC1D24 contains one Rab-GAP TBC domain, one TLD domain and interacts with ARF6. Involved in neuronal projection development, probably through a negative modulation of ARF6 function, TBC1D24 is highly expressed in brain. TBC1D24 is also expressed in testis, skeletal muscle, heart, kidney, lung and liver. Defects in the TBC1D24 gene are the cause of familial infantile myoclonic epilepsy (FIME), which is characterized as a subtype of idiopathic epilepsy starting in early infancy and manifesting as myoclonic seizures, febrile convulsions and tonic-clonic seizures. The gene that encodes TBC1D24 contains 28,353 bases and maps to human chromosome 16p13.3.

REFERENCES

1. Zara, F., et al. 2000. Mapping of a locus for a familial autosomal recessive idiopathic myoclonic epilepsy of infancy to chromosome 16p13. Am. J. Hum. Genet. 66: 1552-1557.
2. de Curtis, I. 2008. Functions of Rac GTPases during neuronal development. Dev. Neurosci. 30: 47-58.
3. Ishibashi, K., et al. 2009. Identification and characterization of a novel Tre-2/Bub2/Cdc16 (TBC) protein that possesses Rab3A-GAP activity. Genes Cells 14: 41-52.
4. Falace, A., et al. 2010. TBC1D24, an ARF6-interacting protein, is mutated in familial infantile myoclonic epilepsy. Am. J. Hum. Genet. 87: 365-370.
5. Corbett, M.A., et al. 2010. A focal epilepsy and intellectual disability syndrome is due to a mutation in TBC1D24. Am. J. Hum. Genet. 87: 371-375.
6. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 613577. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Fukuda, M. 2011. TBC proteins: GAPs for mammalian small GTPase Rab? Biosci. Rep. 31: 159-168.

CHROMOSOMAL LOCATION

Genetic locus: TBC1D24 (human) mapping to 16p13.3; Tbc1d24 (mouse) mapping to 17 A3.3.

SOURCE

TBC1D24 (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 539-559 at the C-terminus of TBC1D24 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-390377 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TBC1D24 (D-5) is recommended for detection of TBC1D24 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).

TBC1D24 (D-5) is also recommended for detection of TBC1D24 in additional species, including canine.

Suitable for use as control antibody for TBC1D24 siRNA (h): sc-93059, TBC1D24 siRNA (m): sc-154103, TBC1D24 shRNA Plasmid (h): sc-93059-SH, TBC1D24 shRNA Plasmid (m): sc-154103-SH, TBC1D24 shRNA (h) Lentiviral Particles: sc-93059-V and TBC1D24 shRNA (m) Lentiviral Particles: sc-154103-V.

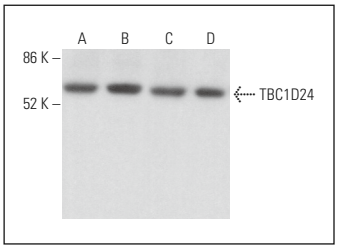
Molecular Weight of TBC1D24: 63 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, Neuro-2A whole cell lysate: sc-364185 or C6 whole cell lysate: sc-364373.

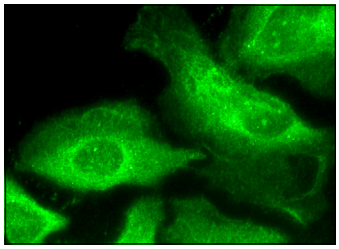
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



TBC1D24 (D-5): sc-390377. Western blot analysis of TBC1D24 expression in SH-SY5Y (**A**), Neuro-2A (**B**), C6 (**C**) and RPE-J (**D**) whole cell lysates.



TBC1D24 (D-5): sc-390377. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

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.