

TBC1D12/14 (H-58): sc-99121

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. TBC1D12 (TBC1 domain family, member 12) and TBC1D14 (TBC1 domain family, member 14) are 775 and 693 amino acid proteins, respectively, which both contain one Rab-GAP TBC domain and are thought to function as GTPase-activating proteins for Rab family members. The genes encoding TBC1D12 and TBC1D14 map to human chromosomes 10 and 4, respectively. Chromosome 4 encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes, while chromosome 10 houses over 1,200 genes and comprises nearly 4.5% of the human genome.

REFERENCES

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2. Bernards, A. 2003. GAPs galore! A survey of putative Ras superfamily GTPase activating proteins in man and *Drosophila*. Biochim. Biophys. Acta 1603: 47-82.
3. Pan, X., Eathiraj, S., Munson, M. and Lambright, D.G. 2006. TBC-domain GAPs for Rab GTPases accelerate GTP hydrolysis by a dual-finger mechanism. Nature 442: 303-306.
4. Tempel, W., Tong, Y., Dimov, S., Bochkarev, A. and Park, H. 2008. First crystallographic models of human TBC domains in the context of a family-wide structural analysis. Proteins 71: 497-502.
5. Ishibashi, K., Kanno, E., Itoh, T. and Fukuda, M. 2009. Identification and characterization of a novel Tre-2/Bub2/Cdc16 (TBC) protein that possesses Rab3A-GAP activity. Genes Cells 14: 41-52.

CHROMOSOMAL LOCATION

Genetic locus: TBC1D12 (human) mapping to 10q23.33, TBC1D14 (human) mapping to 4p16.1; Tbc1d14 (mouse) mapping to 5 B3, Tbc1d12 (mouse) mapping to 19 C3.

SOURCE

TBC1D12/14 (H-58) is a rabbit polyclonal antibody raised against amino acids 571-622 mapping near the C-terminus of TBC1D12 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of 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.

RESEARCH USE

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

APPLICATIONS

TBC1D12/14 (H-58) is recommended for detection of TBC1D12 and TBC1D14 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

TBC1D12/14 (H-58) is also recommended for detection of TBC1D12 and TBC1D14 in additional species, including equine, canine, bovine, porcine and avian.

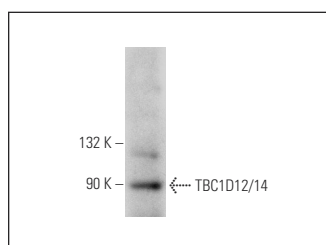
Molecular Weight of TBC1D12/TBC1D14: 86/78 kDa.

Positive Controls: mouse heart extract: sc-2254.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TBC1D12/14 (H-58): sc-99121. Western blot analysis of TBC1D12/14 expression in mouse heart tissue extract.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.