

TBC1D3/3B/3C/3G (H-54): sc-99120

BACKGROUND

The TBC1D3 proteins, some of which include TBC1D3, TBC1D3B, TBC1D3C and TBC1D3G, contain Rab-GAP TBC domains and are thought to function as GTPase activating proteins for Rab 5, thereby mediating Rab 5 function throughout the cell. TBC1D3 family members exhibit different expression patterns and may be involved in the pathogenesis of a variety of carcinomas, including prostate cancer. The gene encoding TBC1D3, TBC1D3B, TBC1D3C and TBC1D3G maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Onno, M., Nakamura, T., Mariage-Samson, R., Hillova, J. and Hill, M. 1993. Human TRE17 oncogene is generated from a family of homologous polymorphic sequences by single-base changes. *DNA Cell Biol.* 12: 107-118.
2. Onno, M., Nakamura, T., Hillova, J. and Hill, M. 1993. Identification of novel sequences in the repertoire of hypervariable TRE17 genes from immortalized nonmalignant and malignant human keratinocytes. *Gene* 131: 209-215.
3. Pei, L., Peng, Y., Yang, Y., Ling, X.B., Van Eynhoven, W.G., Nguyen, K.C., Rubin, M., Hoey, T., Powers, S. and Li, J. 2002. PRC17, a novel oncogene encoding a Rab GTPase-activating protein, is amplified in prostate cancer. *Cancer Res.* 62: 5420-5424.
4. Masuda-Robens, J.M., Kutney, S.N., Qi, H. and Chou, M.M. 2003. The TRE17 oncogene encodes a component of a novel effector pathway for Rho GTPases Cdc42 and Rac 1 and stimulates Actin remodeling. *Mol. Cell Biol.* 23: 2151-2161.
5. Hodzic, D., Kong, C., Wainszelbaum, M.J., Charron, A.J., Su, X. and Stahl, P.D. 2006. TBC1D3, a hominoid oncoprotein, is encoded by a cluster of paralogues located on chromosome 17q12. *Genomics* 88: 731-736.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 607741. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Wainszelbaum, M.J., Charron, A.J., Kong, C., Kirkpatrick, D.S., Srikanth, P., Barbieri, M.A., Gygi, S.P. and Stahl, P.D. 2008. The hominoid-specific oncogene TBC1D3 activates Ras and modulates epidermal growth factor receptor signaling and trafficking. *J. Biol. Chem.* 283: 13233-13242.
8. 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.

SOURCE

TBC1D3/3B/3C/3G (H-54) is a rabbit polyclonal antibody raised against amino acids 496-549 mapping at the C-terminus of TBC1D3 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.

APPLICATIONS

TBC1D3/3B/3C/3G (H-54) is recommended for detection of TBC1D3, TBC1D3B, TBC1D3C and TBC1D3G of 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).

Molecular Weight of TBC1D3: 68 kDa.

Molecular Weight of TBC1D3B: 62 kDa.

Molecular Weight of TBC1D3C: 62 kDa.

Molecular Weight of TBC1D3G: 62 kDa.

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.

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 or our catalog for detailed protocols and support products.

MONOS
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Guaranteed

Try **TBC1D3/3B/3C/3G (H-7): sc-376073** or **pan-TBC1D3 (C-8): sc-514028**, our highly recommended monoclonal alternatives to TBC1D3/3B/3C/3G (H-54).