

# TBC1D3/3B/3C/3G (H-7): sc-376073

## 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

- Onno, M., et al. 1993. Human TRE17 oncogene is generated from a family of homologous polymorphic sequences by single-base changes. *DNA Cell Biol.* 12: 107-118.
- Onno, M., et al. 1993. Identification of novel sequences in the repertoire of hypervariable TRE17 genes from immortalized nonmalignant and malignant human keratinocytes. *Gene* 131: 209-215.

## CHROMOSOMAL LOCATION

Genetic locus: TBC1D3F/TBC1D3B/TBC1D3C/TBC1D3G (human) mapping to 17q12.

## SOURCE

TBC1D3/3B/3C/3G (H-7) is a mouse monoclonal antibody raised against amino acids 496-549 mapping at the C-terminus of TBC1D3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TBC1D3/3B/3C/3G (H-7) is available conjugated to agarose (sc-376073 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376073 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376073 PE), fluorescein (sc-376073 FITC), Alexa Fluor® 488 (sc-376073 AF488), Alexa Fluor® 546 (sc-376073 AF546), Alexa Fluor® 594 (sc-376073 AF594) or Alexa Fluor® 647 (sc-376073 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376073 AF680) or Alexa Fluor® 790 (sc-376073 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

TBC1D3/3B/3C/3G (H-7) is recommended for detection of TBC1D3, TBC1D3B, TBC1D3C and TBC1D3G of 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).

Molecular Weight of TBC1D3: 68 kDa.

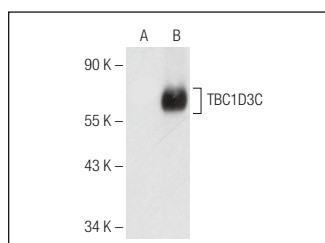
Molecular Weight of TBC1D3/3B/3C/3G: 62 kDa.

Positive Controls: TBC1D3C (h): 293T Lysate: sc-117362.

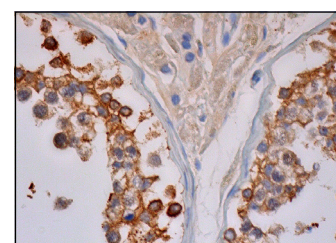
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



TBC1D3/3B/3C/3G (H-7): sc-376073. Western blot analysis of TBC1D3C expression in non-transfected: sc-117752 (A) and human TBC1D3C transfected: sc-117362 (B) 293T whole cell lysates.



TBC1D3/3B/3C/3G (H-7): sc-376073. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts and weak cytoplasmic staining of Leydig cells.

## SELECT PRODUCT CITATIONS

- Ju, X.C., et al. 2016. The hominoid-specific gene TBC1D3 promotes generation of basal neural progenitors and induces cortical folding in mice. *Elife* 5: e18197.
- Hou, Q.Q., et al. 2021. TBC1D3 promotes neural progenitor proliferation by suppressing the histone methyltransferase G9a. *Sci. Adv.* 7: eaba8053.

## RESEARCH USE

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