

# TMCO3 (D-19): sc-84637

## BACKGROUND

TMCO3 (transmembrane and coiled-coil domain-containing protein 3), also known as putative LAG1-interacting protein, is a 677 amino acid multi-pass membrane protein that probably functions as a Na<sup>+</sup>/H<sup>+</sup> antiporter. TMCO3 belongs to the monovalent cation:protein antiporter 2 transporter family, a moderately large family of which members all share a very similar function under normal physiological conditions. The gene encoding TMCO3 maps to human chromosome 13, which comprises nearly 4% of human DNA and contains around 114 million base pairs and 400 genes. Key tumor suppressor genes on chromosome 13 include the breast cancer susceptibility gene, BRCA2, and the RB1 (retinoblastoma) gene. RB1 encodes a crucial tumor suppressor protein which, when defective, leads to malignant growth in the retina and has been implicated in a variety of other cancers. There are three isoforms of TMCO3 that are produced as a result of alternative splicing events.

## REFERENCES

- Ramírez, J., et al. 1998. A *Saccharomyces cerevisiae* mutant lacking a K<sup>+</sup>/H<sup>+</sup> exchanger. *J. Bacteriol.* 180: 5860-5865.
- Baud, O., et al. 1999. Dysmorphic phenotype and neurological impairment in 22 retinoblastoma patients with constitutional cytogenetic 13q deletion. *Clin. Genet.* 55: 478-482.
- Gilbert, F. 2000. Chromosome 13. *Genet. Test.* 4: 85-94.
- Inaba, M., et al. 2001. Functional expression in *Escherichia coli* of low-affinity and high-affinity Na<sup>+</sup>(Li<sup>+</sup>)/H<sup>+</sup> antiporters of *Synechocystis*. *J. Bacteriol.* 183: 1376-1384.
- Kivelä, T., et al. 2003. Retinoblastoma associated with chromosomal 13q14 deletion mosaicism. *Ophthalmology* 110: 1983-1988.
- Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. *Nature* 428: 522-528.
- Fujisawa, M., et al. 2007. Three two-component transporters with channel-like properties have monovalent cation/proton antiport activity. *Proc. Natl. Acad. Sci. USA* 104: 13289-13294.
- Tsunekawa, K., et al. 2009. Identification and characterization of the Na<sup>+</sup>/H<sup>+</sup> antiporter Nhas3 from the thylakoid membrane of *Synechocystis* sp. PCC 6803. *J. Biol. Chem.* 284: 16513-16521.

## CHROMOSOMAL LOCATION

Genetic locus: TMCO3 (human) mapping to 13q34; Tmco3 (mouse) mapping to 8 A1.1.

## SOURCE

TMCO3 (D-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of TMCO3 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84637 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TMCO3 (D-19) is recommended for detection of TMCO3 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).

TMCO3 (D-19) is also recommended for detection of TMCO3 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for TMCO3 siRNA (h): sc-76681, TMCO3 siRNA (m): sc-154326, TMCO3 shRNA Plasmid (h): sc-76681-SH, TMCO3 shRNA Plasmid (m): sc-154326-SH, TMCO3 shRNA (h) Lentiviral Particles: sc-76681-V and TMCO3 shRNA (m) Lentiviral Particles: sc-154326-V.

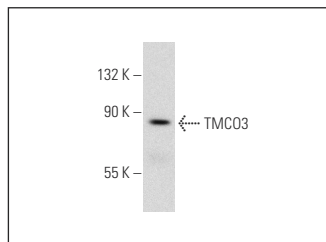
Molecular Weight of TMCO3: 76 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## 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



TMCO3 (D-19): sc-84637. Western blot analysis of TMCO3 expression in HeLa whole cell lysate.

## RESEARCH USE

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