

# TIMMDC1 (Y-15): sc-102358

## BACKGROUND

TIMMDC1 (translocase of inner mitochondrial membrane domain-containing protein 1), also known as Protein M5-14 or C3orf1 (chromosome 3 open reading frame 1), is a 285 amino acid multi-pass mitochondrion membrane protein that has enhanced expression in heart and skeletal muscle. It has been shown that TIMMDC1 expression is high in lung carcinoma cells, with depletion of TIMMDC1 resulting in inhibition of cell migration and proliferation. It is suggested the TIMMDC1 plays a role as a chaperone protein in construction the membrane arm of mitochondrial respiratory complex I. The mitochondrial respiratory complex I couples electron transfer to the release of protons into the mitochondrial inner membrane space to promote ATP production through ATP synthase, as part of the electron transport chain. The TIMMDC1 gene is conserved in chimpanzee, Rhesus monkey, canine, bovine, mouse, rat, chicken, zebrafish, and *Drosophila*.

## REFERENCES

1. Escarceller, M., Pluvinet, R., Sumoy, L. and Estivill, X. 2000. Identification and expression analysis of C3orf1, a novel human gene homologous to the *Drosophila* RP140-upstream gene. *DNA Seq.* 11: 335-338.
2. Wang, G., Yang, Y. and Ott, J. 2010. Genome-wide conditional search for epistatic disease-predisposing variants in human association studies. *Hum. Hered.* 70: 34-41.
3. Andrews, B., Carroll, J., Ding, S., Fearnley, I.M. and Walker, J.E. 2013. Assembly factors for the membrane arm of human complex I. *Proc. Natl. Acad. Sci. USA* 110: 18934-18939.
4. Wu, H., Wang, W. and Xu, H. 2014. Depletion of C3orf1/TIMMDC1 inhibits migration and proliferation in 95D lung carcinoma cells. *Int. J. Mol. Sci.* 15: 20555-20571.
5. Guarani, V., Paulo, J., Zhai, B., Huttlin, E.L., Gygi, S.P. and Harper, J.W. 2014. TIMMDC1/C3orf1 functions as a membrane-embedded mitochondrial complex I assembly factor through association with the MCIA complex. *Mol. Cell. Biol.* 34: 847-861.

## CHROMOSOMAL LOCATION

Genetic locus: TIMMDC1 (human) mapping to 3q13.33; Timmdc1 (mouse) mapping to 16 B4.

## SOURCE

TIMMDC1 (Y-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of TIMMDC1 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## 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-102358 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TIMMDC1 (Y-15) is recommended for detection of TIMMDC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TIMMDC1 (Y-15) is also recommended for detection of TIMMDC1 in additional species, including equine and canine.

Suitable for use as control antibody for TIMMDC1 siRNA (h): sc-78506, Timmdc1 siRNA (m): sc-140081, TIMMDC1 shRNA Plasmid (h): sc-78506-SH, Timmdc1 shRNA Plasmid (m): sc-140081-SH, TIMMDC1 shRNA (h) Lentiviral Particles: sc-78506-V and Timmdc1 shRNA (m) Lentiviral Particles: sc-140081-V.

Molecular Weight of TIMMDC1: 32 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) 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.

## RESEARCH USE

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