SANTA CRUZ BIOTECHNOLOGY, INC.

TIMMDC1 (F-1): sc-514926

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., et al. 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., et al. 2010. Genome-wide conditional search for epistatic disease-predisposing variants in human association studies. Hum. Hered. 70: 34-41.
3. Andrews, B., et al. 2013. Assembly factors for the membrane arm of human complex I. Proc. Natl. Acad. Sci. USA 110: 18934-18939.
4. Wu, H., et al. 2014. Depletion of C3orf1/TIMMDC1 inhibits migration and proliferation in 95D lung carcinoma cells. Int. J. Mol. Sci. 15: 20555-20571.
5. Guarani, V., et al. 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.

SOURCE

TIMMDC1 (F-1) is a mouse monoclonal antibody raised against amino acids 7-285 mapping at the C-terminus of TIMMDC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain 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.

PROTOCOLS

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

APPLICATIONS

TIMMDC1 (F-1) is recommended for detection of TIMMDC1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

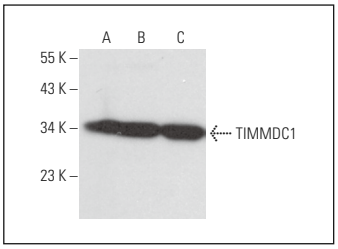
Molecular Weight of TIMMDC1: 32 kDa.

Positive Controls: A-375 cell lysate: sc-3811, A-673 cell lysate: sc-2414 or Caki-1 cell lysate: sc-2224.

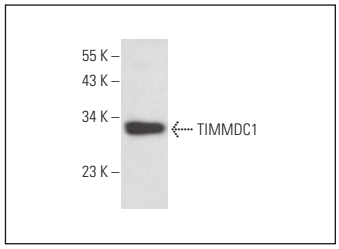
RECOMMENDED SUPPORT REAGENTS

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.

DATA



TIMMDC1 (F-1): sc-514926. Western blot analysis of TIMMDC1 expression in A-375 (**A**), NAMALWA (**B**) and Caki-1 (**C**) whole cell lysates.



TIMMDC1 (F-1): sc-514926. Western blot analysis of TIMMDC1 expression in A-673 whole cell lysate.

RESEARCH USE

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