

TMEM70 (B-6): sc-393619

BACKGROUND

TMEM70 (transmembrane protein 70) is a 260 amino acid multi-pass mitochondrial membrane protein that exists as multiple alternatively spliced isoforms which are expressed in pancreas, liver, muscle and kidney tissue. Mutations in the gene encoding TMEM70 are associated with ATP synthase deficiency and neonatal mitochondrial encephalomyopathy, suggesting that TMEM70 plays an important role in ADP-stimulated respiration, mitochondrial ATP synthesis, ATP hydrolysis and the maintenance of membrane potential. The gene encoding TMEM70 maps to human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies.

REFERENCES

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- Calvo, S., et al. 2006. Systematic identification of human mitochondrial disease genes through integrative genomics. *Nat. Genet.* 38: 576-582.
- Cízková, A., et al. 2008. TMEM70 mutations cause isolated ATP synthase deficiency and neonatal mitochondrial encephalomyopathy. *Nat. Genet.* 40: 1288-1290.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612418. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Houstek, J., et al. 2009. TMEM70 protein-A novel ancillary factor of mammalian ATP synthase. *Biochim. Biophys. Acta* 1787: 529-532.
- Wortmann, S.B., et al. 2009. Biochemical and genetic analysis of 3-methylglutaconic aciduria type IV: a diagnostic strategy. *Brain* 132: 136-146.

CHROMOSOMAL LOCATION

Genetic locus: TMEM70 (human) mapping to 8q21.11.

SOURCE

TMEM70 (B-6) is a mouse monoclonal antibody raised against amino acids 1-260 representing full length TMEM70 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.

TMEM70 (B-6) is available conjugated to agarose (sc-393619 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393619 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393619 PE), fluorescein (sc-393619 FITC), Alexa Fluor® 488 (sc-393619 AF488), Alexa Fluor® 546 (sc-393619 AF546), Alexa Fluor® 594 (sc-393619 AF594) or Alexa Fluor® 647 (sc-393619 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393619 AF680) or Alexa Fluor® 790 (sc-393619 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TMEM70 (B-6) is recommended for detection of TMEM70 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 TCEAL1 siRNA (h): sc-91043, TCEAL1 shRNA Plasmid (h): sc-91043-SH and TCEAL1 shRNA (h) Lentiviral Particles: sc-91043-V.

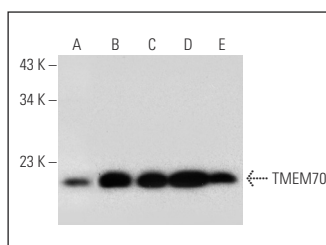
Molecular Weight of TMEM70 isoforms: 29/19 kDa.

Positive Controls: OV-90 whole cell lysate: sc-364191, MOLT-4 cell lysate: sc-2233 or K-562 whole cell lysate: sc-2203.

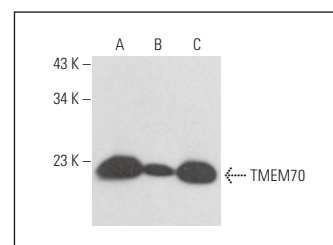
RECOMMENDED SUPPORT REAGENTS

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



TMEM70 (B-6): sc-393619. Western blot analysis of TMEM70 expression in PC-3 (A), OV-90 (B), MOLT-4 (C), K-562 (D) and Jurkat (E) whole cell lysates.



TMEM70 (B-6): sc-393619. Western blot analysis of TMEM70 expression in K-562 (A), T-47D (B) and A2058 (C) whole cell lysates.

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 for detailed protocols and support products.