

TMEM70 (Y-16): sc-87474

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

- Wildenauer, D.B. and Schwab, S.G. 1999. Chromosomes 8 and 10 workshop. *Am. J. Med. Genet.* 88: 239-243.
- 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/>
- Houstk, 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 (Y-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of TMEM70 of human origin.

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-87474 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

TMEM70 (Y-16) is recommended for detection of TMEM70 of 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); non cross-reactive with TMEM family members.

Suitable for use as control antibody for TMEM70 siRNA (h): sc-77756, TMEM70 shRNA Plasmid (h): sc-77756-SH and TMEM70 shRNA (h) Lentiviral Particles: sc-77756-V.

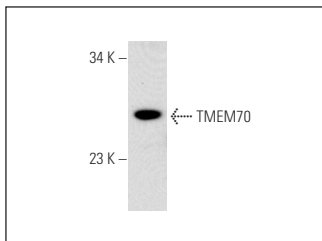
Molecular Weight of TMEM70 isoforms: 29/19 kDa.

Positive Controls: OV-90 whole cell lysate: sc-364191 or Jurkat whole cell lysate: sc-2204.

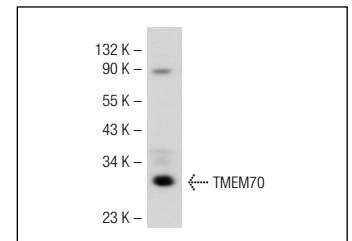
RECOMMENDED SECONDARY REAGENTS

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



TMEM70 (Y-16): sc-87474. Western blot analysis of TMEM70 expression in Jurkat whole cell lysate.



TMEM70 (Y-16): sc-87474. Western blot analysis of TMEM70 expression in OV-90 whole cell lysate.

RESEARCH USE

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