

# MTP18 (D-15): sc-86172

## BACKGROUND

Mitochondria are eukaryotic organelles that convert organic materials into energy in the form of ATP via the process of oxidative phosphorylation. Mitochondria also play important roles in apoptosis, cellular proliferation, regulation of the cellular redox state, heme and steroid synthesis, and glutamate-mediated excitotoxic neuronal injury. A typical cell has hundreds to thousands of mitochondria, each of which contain their own sets of DNA. Mitochondria also have unique proteins that can be used as mitochondrial markers. MTP18 (mitochondrial 18 kDa protein), also known as HSPC242, is a 166 amino acid protein essential for cell viability. MTP18 may also have a role in maintaining the integrity of the mitochondrial network. Localized to the mitochondrion, expression of MTP18 is regulated by the PI 3-kinase pathway. Loss of function of MTP18 results in the release of cytochrome c, which subsequently activates the caspase cascade and leads to apoptosis.

## REFERENCES

- Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34<sup>+</sup> hematopoietic stem/progenitor cells. *Genome Res.* 10: 1546-1560.
- Collins, J.E., et al. 2004. A genome annotation-driven approach to cloning the human ORFeome. *Genome Biol.* 5: R84.
- Tondera, D., et al. 2004. Knockdown of MTP18, a novel phosphatidylinositol 3-kinase-dependent protein, affects mitochondrial morphology and induces apoptosis. *J. Biol. Chem.* 279: 31544-31555.
- Cheng, J., et al. 2005. Transcriptional maps of 10 human chromosomes at 5-nucleotide resolution. *Science* 308: 1149-1154.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610235; World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: MTP18 (human) mapping to 22q12.2; 1700020C11Rik (mouse) mapping to 11 A1.

## SOURCE

MTP18 (D-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MTP18 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-86172 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.

## APPLICATIONS

MTP18 (D-15) is recommended for detection of MTP18 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); non cross-reactive with MTP.

MTP18 (D-15) is also recommended for detection of MTP18 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for MTP18 siRNA (h): sc-75842, MTP18 siRNA (m): sc-149690, MTP18 shRNA Plasmid (h): sc-75842-SH, MTP18 shRNA Plasmid (m): sc-149690-SH, MTP18 shRNA (h) Lentiviral Particles: sc-75842-V and MTP18 shRNA (m) Lentiviral Particles: sc-149690-V.

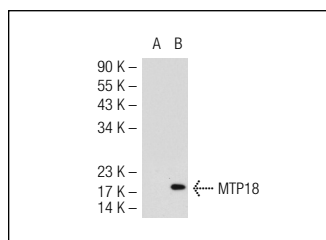
Molecular Weight of MTP18: 18 kDa.

Positive Controls: MTP18 (m): 293T Lysate: sc-125655 or MTP18 (m2): 293T Lysate: sc-125656.

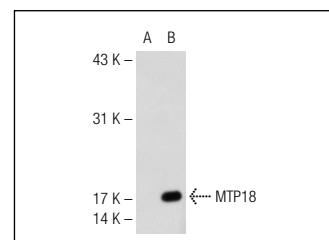
## RECOMMENDED SECONDARY REAGENTS

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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## DATA



MTP18 (D-15): sc-86172. Western blot analysis of MTP18 expression in non-transfected: sc-117752 (A) and mouse MTP18 transfected: sc-125655 (B) 293T whole cell lysates.



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## RESEARCH USE

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

## PROTOCOLS

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