

## Tom70 (C-18): sc-26495

### BACKGROUND

The mitochondrial protein translocase (MPT) shuttles preproteins into the mitochondria via recognition of an amino-terminal signal sequence (presequence) or an internal targeting domain within the preprotein. MPT contains several components that form three translocons, one in the outer membrane (Tom40/70) and two in the inner membrane (Tim17/23 and Tim22/54). The integral membrane proteins of the MPT include Tom70, Tom37, Tom22 and Tom20. MPT-dependent transport delivers the substrate protein to an outer membrane channel consisting of 5 hydrophobic proteins, Tom40, Tom38, Tom7, Tom6 and Tom5. The human Tom70 gene maps to chromosome 3q12.2.

### REFERENCES

1. University of California-San Diego Transport Protein Database TC-DB <http://tcdb.ucsd.edu/tcdb/background.php>
2. Dekker, P.J.T., et al. 1997. The Tim core complex defines the number of mitochondrial translocation contact sites and can hold arrested preproteins in the absence of matrix Hsp70-Tim44. *EMBO J.* 16: 5408-5419.
3. Hill, K., et al. 1998. Tom40 forms the hydrophilic channel of the mitochondrial import pore for preproteins. *Nature* 395: 516-521.
4. Diekert, K., et al. 1999. An internal targeting signal directing proteins into the mitochondrial intermembrane space. *Proc. Natl. Acad. Sci. USA* 96: 21.
5. Agarraberes, F.A. and J.F. Dice. 2001. Protein translocation across membranes. *Biochim. Biophys. Acta* 1513: 1-24.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 606081. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: TOMM70A (human) mapping to 3q12.2; Tomm70a (mouse) mapping to 16 C1.1.

### SOURCE

Tom70 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Tom70 of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26495 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.

### RESEARCH USE

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

### APPLICATIONS

Tom70 (C-18) is recommended for detection of Tom70 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and 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).

Tom70 (C-18) is also recommended for detection of Tom70 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Tom70 siRNA (h): sc-106627, Tom70 siRNA (m): sc-154554, Tom70 shRNA Plasmid (h): sc-106627-SH, Tom70 shRNA Plasmid (m): sc-154554-SH, Tom70 shRNA (h) Lentiviral Particles: sc-106627-V and Tom70 shRNA (m) Lentiviral Particles: sc-154554-V.

Molecular Weight of Tom70: 70 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Hansson Petersen, C.A., et al. 2008. The amyloid β-peptide is imported into mitochondria via the TOM import machinery and localized to mitochondrial cristae. *Proc. Natl. Acad. Sci. USA* 105: 13145-13150.
2. Cheng, T.L., et al. 2009. Identification and characterization of the mitochondrial targeting sequence and mechanism in human citrate synthase. *J. Cell. Biochem.* 107: 1002-1015.
3. Arduini, A., et al. 2011. Mitochondrial biogenesis fails in secondary biliary cirrhosis in rats leading to mitochondrial DNA depletion and deletions. *Am. J. Physiol. Gastrointest. Liver Physiol.* 301: G119-G127.

### PROTOCOLS

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



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Try **Tom70 (A-8): sc-390545**, our highly recommended monoclonal alternative to Tom70 (C-18).