

Tom40 (H-300): sc-11414

BACKGROUND

The mitochondrial preprotein translocases of the outer membrane (Tom) is a multisubunit protein complex that facilitates the import of nucleus-encoded precursor proteins across the mitochondrial outer membrane. The Tom machinery consists of import receptors for the initial binding of cytosolically synthesized preproteins and a general import pore (GIP) for the membrane translocation of various preproteins into the mitochondria. The import receptors include Tom20 and Tom22, which form a heteromeric receptor complex that initiates the insertion of newly synthesized proteins into the outer membrane and then directs the precursor protein into the GIP. In yeast, Tom22 is the essential component of the import receptor complex as it functions as both a receptor for the preproteins and serves as a docking point for both Tom20 and the GIP. Tom22 directly associates with Tom40, the major component of the GIP, and thereby forms a stable interaction between the two core complexes to facilitate the fluid movement of preproteins into the mitochondria. The insertion of Tom40 into the Tom machinery requires the initial binding of Tom40 to Tom20 and leads to the efficient incorporation of Tom40 precursors into preexisting Tom complexes.

CHROMOSOMAL LOCATION

Genetic locus: TOMM40 (human) mapping to 19q13.32; Tomm40 (mouse) mapping to 7 A3.

SOURCE

Tom40 (H-300) is a rabbit polyclonal antibody raised against amino acids 62-361 of Tom40 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.

APPLICATIONS

Tom40 (H-300) is recommended for detection of Tom40 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Tom40 (H-300) is also recommended for detection of Tom40 in additional species, including bovine and porcine.

Suitable for use as control antibody for Tom40 siRNA (h): sc-61697, Tom40 siRNA (m): sc-61698, Tom40 shRNA Plasmid (h): sc-61697-SH, Tom40 shRNA Plasmid (m): sc-61698-SH, Tom40 shRNA (h) Lentiviral Particles: sc-61697-V and Tom40 shRNA (m) Lentiviral Particles: sc-61698-V.

Molecular Weight of Tom40: 40 kDa.

Positive Controls: MM-142 cell lysate: sc-2246, HEK293 whole cell lysate: sc-45136 or HuT 78 whole cell lysate: sc-2208.

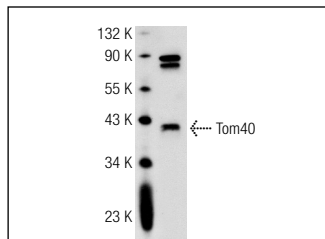
RESEARCH USE

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

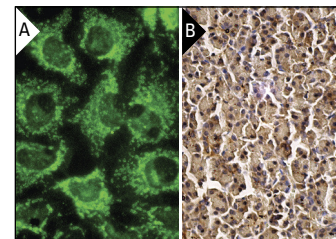
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Tom40 (H-300): sc-11414. Western blot analysis of Tom40 expression in 293T whole cell lysate.



Tom40 (H-300): sc-11414. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Higgins, C.M., et al. 2003. ALS-associated mutant SOD1G93A causes mitochondrial vacuolation by expansion of the intermembrane space and by involvement of SOD-1 aggregation and peroxisomes. *BMC Neurosci.* 4: 16.
- Maloberti, P.M., et al. 2010. Functional interaction between acyl-CoA synthetase 4, lipooxygenases and cyclooxygenase-2 in the aggressive phenotype of breast cancer cells. *PLoS ONE* 5: e15540.
- Ullman, E., et al. 2011. Squamous cell carcinoma antigen 1 promotes caspase-8-mediated apoptosis in response to endoplasmic reticulum stress while inhibiting necrosis induced by lysosomal injury. *Mol. Cell. Biol.* 31: 2902-2919.
- Lindfors, C., et al. 2011. Hypothalamic mitochondrial dysfunction associated with anorexia in the anx/anx mouse. *Proc. Natl. Acad. Sci. USA* 108: 18108-18113.
- Cambier, L., et al. 2012. M19 modulates skeletal muscle differentiation and insulin secretion in pancreatic β -cells through modulation of respiratory chain activity. *PLoS ONE* 7: e31815.
- Notte, A., et al. 2013. Hypoxia counteracts taxol-induced apoptosis in MDA-MB-231 breast cancer cells: role of autophagy and JNK activation. *Cell Death Dis.* 4: e638.
- Zhang, Y., et al. 2013. Altered mitochondrial morphology and defective protein import reveals novel roles for Bax and/or Bak in skeletal muscle. *Am. J. Physiol. Cell Physiol.* 305: C502-C511.

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