

Tom20 (FL-145): sc-11415

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: TOMM20 (human) mapping to 1q42.3; Tomm20 (mouse) mapping to 8 E2.

SOURCE

Tom20 (FL-145) is a rabbit polyclonal antibody raised against amino acids 1-145 representing full length Tom20 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

Tom20 (FL-145) is recommended for detection of Tom20 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tom20 (FL-145) is also recommended for detection of Tom20 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Tom20 siRNA (h): sc-36691, Tom20 siRNA (m): sc-36692, Tom20 shRNA Plasmid (h): sc-36691-SH, Tom20 shRNA Plasmid (m): sc-36692-SH, Tom20 shRNA (h) Lentiviral Particles: sc-36691-V and Tom20 shRNA (m) Lentiviral Particles: sc-36692-V.

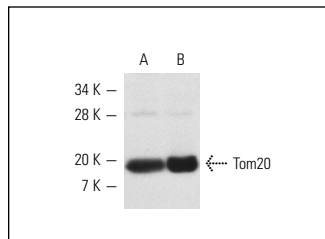
Molecular Weight of Tom20: 20 kDa.

Positive Controls: MM-142 cell lysate: sc-2246, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

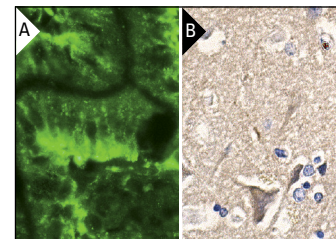
STORAGE

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

DATA



Tom20 (FL-145): sc-11415. Western blot analysis of Tom20 expression in HeLa (A) and MM-142 (B) whole cell lysates.



Tom20 (FL-145): sc-11415. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (B).

SELECT PRODUCT CITATIONS

1. Zong, W.X., et al. 2004. Alkylating DNA damage stimulates a regulated form of necrotic cell death. *Genes Dev.* 18: 1272-1282.
2. Usami, Y., et al. 2011. DJ-1 associates with synaptic membranes. *Neurobiol. Dis.* 43: 651-662.
3. De Marchi, U., et al. 2011. Uncoupling protein 3 (UCP3) modulates the activity of sarco/endoplasmic reticulum Ca²⁺ ATPase (SERCA) by decreasing mitochondrial ATP production. *J. Biol. Chem.* 286: 32533-32541.
4. Singh, K., et al. 2011. Effect of denervation-induced muscle disuse on mitochondrial protein import. *Am. J. Physiol., Cell Physiol.* 300: C138-C145.
5. Pavlov, P.F., et al. 2011. Mitochondrial γ-secretase participates in the metabolism of mitochondria-associated amyloid precursor protein. *FASEB J.* 25: 78-88.
6. Bénard, G., et al. 2012. Mitochondrial CB₁ receptors regulate neuronal energy metabolism. *Nat. Neurosci.* 15: 558-564.
7. Fernandes, R., et al. 2012. NLRP5 mediates mitochondrial function in mouse oocytes and embryos. *Biol. Reprod.* 86: 138.
8. Selimovic, D., et al. 2012. Apoptosis related protein-1 triggers melanoma cell death via interaction with the juxtamembrane region of p75 neurotrophin receptor. *J. Cell. Mol. Med.* 16: 349-361.

RESEARCH USE

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



Try **Tom20 (F-10): sc-17764** or **Tom20 (29): sc-136211**, our highly recommended monoclonal alternatives to Tom20 (FL-145). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Tom20 (F-10): sc-17764**.