

Tom1 (RQ-07): sc-101283

BACKGROUND

Tom1 (target of Myb 1) is a 492 amino acid cytoplasmic protein that belongs to the Tom1 family. Widely expressed with highest expression in heart, liver, placenta and skeletal muscle, Tom1 is thought to be involved in intracellular trafficking and may be associated with the translocation of ubiquitinated proteins to early endosomes for degradation. Tom1 contains one GAT domain and one VHS domain through which it interacts and complexes with proteins such as Tollip and endofin (also known as SARA). These interactions recruit Tom1 to the endosome, allowing it to participate in the endosomal trafficking of ubiquitin-tagged proteins. Human Tom1 shares 76% similarity with its chicken counterpart and 89% similarity with its mouse counterpart, suggesting a conserved function between species.

REFERENCES

1. Seroussi, E., Kedra, D., Kost-Alimova, M., Sandberg-Nordqvist, A.C., Fransson, I., Jacobs, J.F., Fu, Y., Pan, H.Q., Roe, B.A., Imreh, S. and Dumanski, J.P. 1999. Tom1 genes map to human chromosome 22q13.1 and mouse chromosome 8C1 and encode proteins similar to the endosomal proteins HGS and STAM. *Genomics* 57: 380-388.
2. Misra, S., Beach, B.M. and Hurley, J.H. 2000. Structure of the VHS domain of human Tom1 (target of Myb 1): insights into interactions with proteins and membranes. *Biochemistry* 39: 11282-11290.
3. Yamakami, M., Yoshimori, T. and Yokosawa, H. 2003. Tom1, a VHS domain-containing protein, interacts with Tollip, ubiquitin, and Clathrin. *J. Biol. Chem.* 278: 52865-52872.
4. Seet, L.F., Liu, N., Hanson, B.J. and Hong, W. 2004. Endofin recruits Tom1 to endosomes. *J. Biol. Chem.* 279: 4670-4679.
5. Katoh, Y., Shiba, Y., Mitsuhashi, H., Yanagida, Y., Takatsu, H. and Nakayama, K. 2004. Tollip and Tom1 form a complex and recruit ubiquitin-conjugated proteins onto early endosomes. *J. Biol. Chem.* 279: 24435-24443.
6. Akutsu, M., Kawasaki, M., Katoh, Y., Shiba, T., Yamaguchi, Y., Kato, R., Kato, K., Nakayama, K. and Wakatsuki, S. 2005. Structural basis for recognition of ubiquitinated cargo by Tom1-GAT domain. *FEBS Lett.* 579: 5385-5391.
7. Seet, L.F. and Hong, W. 2005. Endofin recruits Clathrin to early endosomes via Tom1. *J. Cell Sci.* 118: 575-587.
8. Katoh, Y., Imakagura, H., Futatsumori, M. and Nakayama, K. 2006. Recruitment of Clathrin onto endosomes by the Tom1-Tollip complex. *Biochem. Biophys. Res. Commun.* 341: 143-149.

CHROMOSOMAL LOCATION

Genetic locus: TOM1 (human) mapping to 22q12.3.

SOURCE

Tom1 (RQ-07) is a mouse monoclonal antibody raised against recombinant Tom1 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Tom1 (RQ-07) is recommended for detection of Tom1 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), 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).

Suitable for use as control antibody for Tom1 siRNA (h): sc-76707, Tom1 shRNA Plasmid (h): sc-76707-SH and Tom1 shRNA (h) Lentiviral Particles: sc-76707-V.

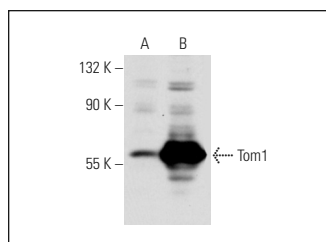
Molecular Weight of Tom1: 60 kDa.

Positive Controls: Tom1 (h): 293T Lysate: sc-116266 or K-562 whole cell lysate: sc-2203.

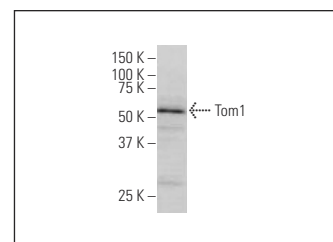
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Tom1 (RQ-07): sc-101283. Western blot analysis of Tom1 expression in non-transfected: sc-117752 (A) and human Tom1 transfected: sc-116266 (B) 293T whole cell lysates.



Tom1 (RQ-07): sc-101283. Western blot analysis of Tom1 expression in K-562 whole cell lysate.

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.