



TOCA-1 (E-17): sc-103902

BACKGROUND

TOCA-1 (transducer of Cdc42-dependent Actin assembly protein 1), also known as FNB1L (formin binding protein 1-like), is a 605 amino acid protein that localizes to the cytoplasm and the cytoskeleton, as well as to cytoplasmic vesicles and the cell membrane, and contains one FCH domain, one REM repeat and one SH3 domain. Existing as multiple alternatively spliced isoforms, TOCA-1 interacts with Cdc42 and is required for the coordination of membrane tubulation with Actin cytoskeletal reorganization during endocytosis. Additionally, TOCA-1 is involved in membrane invagination, tubule formation and Actin polymerization. The gene encoding TOCA-1 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

REFERENCES

1. Ho, H.Y., Rohatgi, R., Lebensohn, A.M., Le Ma, J., Gygi, S.P. and Kirschner, M.W. 2004. TOCA-1 mediates Cdc42-dependent Actin nucleation by activating the N-WASP-WIP complex. *Cell* 118: 203-216.
2. Katoh, M. and Katoh, M. 2004. Identification and characterization of human FNB1L gene in silico. *Int. J. Mol. Med.* 13: 157-162.
3. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608848. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Kakimoto, T., Katoh, H. and Negishi, M. 2006. Regulation of neuronal morphology by TOCA-1, an F-BAR/EFC protein that induces plasma membrane invagination. *J. Biol. Chem.* 281: 29042-29053.
5. Tsujita, K., Suetsugu, S., Sasaki, N., Furutani, M., Oikawa, T. and Takenawa, T. 2006. Coordination between the Actin cytoskeleton and membrane deformation by a novel membrane tubulation domain of PCH proteins is involved in endocytosis. *J. Cell. Biol.* 172: 269-279.
6. Kovacs, E.M., Makar, R.S. and Gertler, F.B. 2006. Tuba stimulates intracellular N-WASP-dependent Actin assembly. *J. Cell Sci.* 119 (Pt 13): 2715-2726.
7. Leung, Y., Ally, S. and Goldberg, M.B. 2008. Bacterial Actin assembly requires TOCA-1 to relieve N-WASP autoinhibition. *Cell Host Microbe* 3: 39-47.
8. Huett, A., Ng, A., Cao, Z., Kuballa, P., Komatsu, M., Daly, M.J., Podolsky, D.K. and Xavier, R.J. 2009. A novel hybrid yeast-human network analysis reveals an essential role for FNB1L in antibacterial autophagy. *J. Immunol.* 182: 4917-4930.

CHROMOSOMAL LOCATION

Genetic locus: FNB1L (human) mapping to 1p22.1; Fhbp1l (mouse) mapping to 3 G1.

STORAGE

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

SOURCE

TOCA-1 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TOCA-1 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-103902 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TOCA-1 (E-17) is recommended for detection of TOCA-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for FNB1L siRNA (h): sc-88407, TOCA-1 siRNA (m): sc-106624, FNB1L shRNA Plasmid (h): sc-88407-SH, TOCA-1 shRNA Plasmid (m): sc-106624-SH, FNB1L shRNA (h) Lentiviral Particles: sc-88407-V and TOCA-1 shRNA (m) Lentiviral Particles: sc-106624-V.

Molecular Weight of TOCA-1: 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™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ 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™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.