SANTA CRUZ BIOTECHNOLOGY, INC.

# TAPP1 siRNA (m): sc-63101

## BACKGROUND

Tandem PH (pleckstrin homology) domain-containing protein 1 (TAPP1) is a widely expressed cytoplasmic adaptor protein related to Bam32. Highest expression levels of TAPP1 are found in skeletal muscle, spleen, lung, thymus and placenta. Upon growth factor stimulation and activation of phosphoinositol 3-kinase, TAPP1 is recruited to the plasma membrane and accumulates in the F-Actin-rich membrane ruffles. This recruitment occurs through the specific interaction of the TAPP1 C-terminal PH domain with phosphotidylinositol 3,4-bisphosphate. Syntrophins are responsible for regulating the localization of TAPP1, and together, this may regulate Actin-mediated membrane ruffling and cytoskeletal reorganization. The overexpression of TAPP1, in the absence of syntrophin overexpression, blocks the formation of circular ruffles. TAPP1 may also be involved in the activation of B and T cells.

## REFERENCES


1. Dowler, S., et al. 2000. Identification of Pleckstrin-homology-domain-containing proteins with novel phosphoinositide-binding specificities. Biochem. J. 351: 19-31.
2. Thomas, C.C., et al. 2001. Crystal structure of the phosphatidylinositol 3,4-bisphosphate-binding pleckstrin homology (PH) domain of tandem PH-domain-containing protein 1 (TAPP1): molecular basis of lipid specificity. Biochem. J. 358: 287-294.
3. Kimber, W.A., et al. 2002. Evidence that the tandem-Pleckstrin-homology-domain-containing protein TAPP1 interacts with Ptd(3,4)P2 and the multi-PDZ-domain-containing protein MUPP1 *in vivo.* Biochem. J. 361: 525-536.
4. Marshall, A.J., et al. 2002. TAPP1 and TAPP2 are targets of phosphatidylinositol 3-kinase signaling in B cells: sustained plasma membrane recruitment triggered by the B cell antigen receptor. Mol. Cell. Biol. 22: 5479-5491.
5. Kimber, W.A., et al. 2003. Interaction of the protein tyrosine phosphatase PTPL1 with the PtdIns(3,4)P2-binding adaptor protein TAPP1. Biochem. J. 376: 525-535.
6. Watt, S.A., et al. 2004. Detection of novel intracellular agonist responsive pools of phosphatidylinositol 3, 4-bisphosphate using the TAPP1 Pleckstrin homology domain in immunoelectron microscopy. Biochem. J. 377: 653-663.


## CHROMOSOMAL LOCATION

Genetic locus: Plekha1 (mouse) mapping to 7 F3.

## PRODUCT

TAPP1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TAPP1 shRNA Plasmid (m): sc-63101-SH and TAPP1 shRNA (m) Lentiviral Particles: sc-63101-V as alternate gene silencing products.

For independent verification of TAPP1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63101A, sc-63101B and sc-63101C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TAPP1 siRNA (m) is recommended for the inhibition of TAPP1 expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

TAPP1 (D-5): sc-374622 is recommended as a control antibody for monitoring of TAPP1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TAPP1 gene expression knockdown using RT-PCR Primer: TAPP1 (m)-PR: sc-63101-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

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