

# TAPP2 siRNA (m): sc-63103

## BACKGROUND

Tandem PH (pleckstrin homology) domain-containing protein 2 (TAPP2) is a widely expressed cytoplasmic adaptor protein related to BAM32. Highest expression levels of TAPP2 are found in heart and kidney tissues. Upon growth factor stimulation and activation of phosphoinositol 3-kinase, TAPP2 is recruited to the plasma membrane and accumulates in F-Actin-rich membrane ruffles. This recruitment occurs through the specific interaction of the TAPP2 C-terminal PH domain with phosphatidylinositol 3,4-bisphosphate. TAPP2 is positively regulated by Fc  $\gamma$  RII and SHIP. The overexpression of TAPP2 increases NFAT-dependent transcriptional activation after G cell Ag receptor ligation and increases the sustained phase of the calcium response. TAPP2 may play a role 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. 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.
3. Kimber, W.A., et al. 2002. Evidence that the tandem-Pleckstrin-homology-domain-containing protein TAPP1 interacts with Ptd(3,4)P<sub>2</sub> and the multi-PDZ-domain-containing protein MUPP1 *in vivo*. *Biochem. J.* 361: 525-536.
4. Kimber, W.A., et al. 2003. Interaction of the protein tyrosine phosphatase PTPN1 with the PtdIns(3,4)P<sub>2</sub>-binding adaptor protein TAPP1. *Biochem. J.* 376: 525-535.
5. Krahn, A.K., et al. 2004. Two distinct waves of membrane-proximal B cell antigen receptor signaling differentially regulated by Src homology 2-containing inositol polyphosphate 5-phosphatase. *J. Immunol.* 172: 331-339.
6. Hogan, A., et al. 2004. The phosphoinositol 3,4-bisphosphate-binding protein TAPP1 interacts with syntrophins and regulates actin cytoskeletal organization. *J. Biol. Chem.* 279: 53717-53724.
7. Allam, A., et al. 2005. Role of the adaptor proteins Bam32, TAPP1 and TAPP2 in lymphocyte activation. *Immunol. Lett.* 97: 7-17.

## CHROMOSOMAL LOCATION

Genetic locus: *Plekha2* (mouse) mapping to 8 A2.

## PRODUCT

TAPP2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TAPP2 shRNA Plasmid (m): sc-63103-SH and TAPP2 shRNA (m) Lentiviral Particles: sc-63103-V as alternate gene silencing products.

For independent verification of TAPP2 (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-63103A, sc-63103B and sc-63103C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TAPP2 siRNA (m) is recommended for the inhibition of TAPP2 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  $\mu$ M in 66  $\mu$ l. 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

TAPP2 (A-7): sc-166351 is recommended as a control antibody for monitoring of TAPP2 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TAPP2 gene expression knockdown using RT-PCR Primer: TAPP2 (m)-PR: sc-63103-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.