SANTA CRUZ BIOTECHNOLOGY, INC.

TPD52 siRNA (h): sc-45341

BACKGROUND

The tumor protein D52 (TPD52) family consists of three members, TPD52, TPD52L1 (D53), and TPD52L2 (D54). These small coiled-coil motif bearing proteins interact in hetero- and homomeric fashion. The TPD52 gene maps to chromosome 8q21.13, and due to amplification, shows frequent overexpression in prostate and breast carcinomas. TPD52 bound to annexin VI in a Ca^{2+}-dependent manner, suggesting that these molecules may act in concert to regulate secretory processes in plasma cells.

REFERENCES

1. Nourse, C.R., et al. 1998. Cloning of a third member of the D52 gene family indicates alternative coding sequence usage in D52-like transcripts. Biochim. Biophys. Acta 1443: 155-168.
2. Byrne, J.A., et al. 1998. Identification and *in situ* hybridization mapping of a mouse TPD52I1 (D53) orthologue to chromosome 10A4-B2. Cytogenet. Cell Genet. 81: 199-201.
3. Sathasivam, P., et al. 2001. The role of the coiled-coil motif in interactions mediated by TPD52. Biochem. Biophys. Res. Commun. 288: 56-61.
4. Boutros, R., et al. 2004. The tumor protein D52 family: many pieces, many puzzles. Biochem. Biophys. Res. Commun. 325: 1115-1121.
5. Rubin, M.A., et al. 2004. Overexpression, amplification, and androgen regulation of TPD52 in prostate cancer. Cancer Res. 64: 3814-3822.
6. Tiacci, E., et al. 2005. Tumor protein D52 (TPD52): a novel B cell/plasma-cell molecule with unique expression pattern and Ca^{2+}-dependent association with annexin VI. Blood 105: 2812-2820.

CHROMOSOMAL LOCATION

Genetic locus: TPD52 (human) mapping to 8q21.13.

PRODUCT

TPD52 siRNA (h) 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 TPD52 shRNA Plasmid (h): sc-45341-SH and TPD52 shRNA (h) Lentiviral Particles: sc-45341-V as alternate gene silencing products.

For independent verification of TPD52 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45341A, sc-45341B and sc-45341C.

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

TPD52 siRNA (h) is recommended for the inhibition of TPD52 expression in human 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

TPD52 (A-6): sc-166732 is recommended as a control antibody for monitoring of TPD52 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 TPD52 gene expression knockdown using RT-PCR Primer: TPD52 (h)-PR: sc-45341-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Shabbir, M., et al. 2021. Tissue microarray profiling and integrative proteomics indicate the modulatory potential of *Maytenus royleanus* in inhibition of overexpressed TPD52 in prostate cancers. Sci. Rep. 11: 11935.
2. Fan, Y., et al. 2021. Acetylation-dependent regulation of TPD52 isoform 1 modulates chaperone-mediated autophagy in prostate cancer. Autophagy 17: 4386-4400.

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.