SANTA CRUZ BIOTECHNOLOGY, INC.

Dapper3 siRNA (m): sc-142876

BACKGROUND

Dapper3, also known as DACT3 (dapper, antagonist of β-catenin, homolog 3) or RRR1, is a 629 amino acid protein and mammalian homolog of the *Xenopus laevis* protein dapper. As a member of the dapper family, Dapper3 plays a role in postnatal brain development and contains a C-terminal PDZ-binding motif that facilitates interaction with the PDZ domains of DSH (Dishevelled) family proteins. As the predominant dapper family member found in adult brain, Dapper3 localizes to hippocampus, Purkinje cell layer and every layer of the dorsal forebrain and cerebral cortex and is also found in the developing murine central nervous system. Dapper3 is also expressed in uterus, ventral somites, branchial arch mesenchyme, aortic sac, aortic arches, limb bud mesenchyme and craniofacical mesenchyme. Mapping to human chromosome 19q13.32, Dapper3 has been identified as a negative regulator of Wnt/β-catenin signaling in colorectal cancer.

REFERENCES

1. Roelink, H., et al. 1991. Expression of two members of the Wnt family during mouse development—restricted temporal and spatial patterns in the developing neural tube. Genes Dev. 5: 381-388.
2. McMahon, A.P., et al. 1992. The Wnt family of cell signalling molecules in postimplantation development of the mouse. Ciba Found. Symp. 165: 199-212.
3. Cheyette, B.N., et al. 2002. Dapper, a Dishevelled-associated antagonist of β-catenin and JNK signaling, is required for notochord formation. Dev. Cell 2: 449-461.
4. Waxman, J.S., et al. 2004. Zebrafish Dapper1 and Dapper2 play distinct roles in Wnt-mediated developmental processes. Development 131: 5909-5921.
5. Fisher, D.A., et al. 2006. Three Dact gene family members are expressed during embryonic development and in the adult brains of mice. Dev. Dyn. 235: 2620-2630.

CHROMOSOMAL LOCATION

Genetic locus: Dact3 (mouse) mapping to 7 A2.

PRODUCT

Dapper3 siRNA (m) is a pool of 2 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 Dapper3 shRNA Plasmid (m): sc-142876-SH and Dapper3 shRNA (m) Lentiviral Particles: sc-142876-V as alternate gene silencing products.

For independent verification of Dapper3 (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-142876A and sc-142876B.

PROTOCOLS

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

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

Dapper3 siRNA (m) is recommended for the inhibition of Dapper3 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

Dapper3 (2A5): sc-136159 is recommended as a control antibody for monitoring of Dapper3 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Dapper3 gene expression knockdown using RT-PCR Primer: Dapper3 (m)-PR: sc-142876-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.