SANTA CRUZ BIOTECHNOLOGY, INC.

Dapper2 siRNA (m): sc-142875

BACKGROUND

Dapper2, also known as DACT2 (dapper, antagonist of β-catenin, homolog 2), DPR2 or C6orf116, is a 774 amino acid protein that exists as multiple alternatively spliced isoforms and is a mammalian homolog of the *Xenopus laevis* protein dapper. Containing a C-terminal PDZ-binding motif, Dapper2 is thought to promote the lysosomal degradation of nodal receptors, possibly functioning to negatively regulate the nodal signaling pathway. The gene encoding Dapper2 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, *Porphyria cutanea tarda*, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

1. 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.
2. Katoh, M. and Katoh, M. 2003. Identification and characterization of human DAPPER1 and DAPPER2 genes in silico. Int. J. Oncol. 22: 907-913.
3. Waxman, J.S., et al. 2004. Zebrafish Dapper1 and Dapper2 play distinct roles in Wnt-mediated developmental processes. Development 131: 5909-5921.
4. Zhang, L., et al. 2004. Zebrafish Dpr2 inhibits mesoderm induction by promoting degradation of nodal receptors. Science 306: 114-117.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608966. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. 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: Dact2 (mouse) mapping to 17 A2.

PRODUCT

Dapper2 siRNA (m) is a target-specific 19-25 nt siRNA 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 Dapper2 shRNA Plasmid (m): sc-142875-SH and Dapper2 shRNA (m) Lentiviral Particles: sc-142875-V as alternate gene silencing products.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

Dapper2 siRNA (m) is recommended for the inhibition of Dapper2 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

Dapper2 (N-14): sc-167591 is recommended as a control antibody for monitoring of Dapper2 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 (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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Dapper2 gene expression knockdown using RT-PCR Primer: Dapper2 (m)-PR: sc-142875-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.