SANTA CRUZ BIOTECHNOLOGY, INC.

DAND5 siRNA (h): sc-97499

BACKGROUND

The DAN (differential screening-selected gene aberrative in neuroblastoma) protein family contains antagonists of bone morphogenetic protein (BMP) signaling that are expressed in the neural crest. All family members are secreted proteins that act as BMP antagonists in embryonic explants and are expressed in the proximal airway epithelium of the lung during embryonic development. DAND5 (DAN domain family, member 5), also known as Cerl-2 (cerberus-like protein 2), CKTSF1B3 (cysteine knot superfamily 1, BMP antagonist 3) or Gremlin-3, is a 189 amino acid member of the DAN protein family. DAND5 is a secreted protein that contains one CTCK (C-terminal cystine knot-like) domain. DAND5 is thought to play a role in the correct specification of the left-right axis during development. DAND5 may antagonize Nodal and BMP-4 signaling.

REFERENCES

1. Ohtori, S., et al. 2002. Differential screening-selected gene aberrative in neuroblastoma protein modulates inflammatory pain in the spinal dorsal horn. Neuroscience 110: 579-586.
2. Kim, A.S., et al. 2003. Expression of the BMP antagonist Dan during murine forebrain development. Brain Res. Dev. Brain Res. 145: 159-162.
3. Gerlach-Bank, L.M., et al. 2004. DAN directs endolymphatic sac and duct outgrowth in the avian inner ear. Dev. Dyn. 229: 219-230.
4. Marques, S., et al. 2004. The activity of the Nodal antagonist Cerl-2 in the mouse node is required for correct L/R body axis. Genes Dev. 18: 2342-2347.
5. Avsian-Kretchmer, O., et al. 2004. Comparative genomic analysis of the eight-membered ring cystine knot-containing bone morphogenetic protein antagonists. Mol. Endocrinol. 18: 1-12.
6. Katoh, M., et al. 2004. Identification and characterization of human CKTSF1B2 and CKTSF1B3 genes in silico. Oncol. Rep. 12: 423-427.

CHROMOSOMAL LOCATION

Genetic locus: DAND5 (human) mapping to 19p13.2.

PRODUCT

DAND5 siRNA (h) 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 DAND5 shRNA Plasmid (h): sc-97499-SH and DAND5 shRNA (h) Lentiviral Particles: sc-97499-V as alternate gene silencing products.

For independent verification of DAND5 (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-97499A and sc-97499B.

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

DAND5 siRNA (h) is recommended for the inhibition of DAND5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DAND5 gene expression knockdown using RT-PCR Primer: DAND5 (h)-PR: sc-97499-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.