SANTA CRUZ BIOTECHNOLOGY, INC.

Dullard siRNA (m): sc-77191

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. Dullard, also known as NET56, is a 244 amino acid single-pass membrane protein that localizes to both the nucleus and the endoplasmic reticulum and contains one FCP1 homology domain. Functioning as a serine/threonine phosphatase, Dullard catalyses the dephosphorylation of target proteins and is thought to be required for proper nuclear membrane morphology. Human Dullard shares 92% sequence identity with its zebrafish counterpart, suggesting a conserved role between species.

REFERENCES

1. Satow, R., et al. 2002. Molecular cloning and characterization of Dullard: a novel gene required for neural development. Biochem. Biophys. Res. Commun. 295: 85-91.
2. Satow, R., et al. 2006. Dullard promotes degradation and dephosphorylation of BMP receptors and is required for neural induction. Dev. Cell 11: 763-774.
3. Kondo, M. 2007. Bone morphogenetic proteins in the early development of zebrafish. FEBS J. 274: 2960-2967.
4. Kim, Y., et al. 2007. A conserved phosphatase cascade that regulates nuclear membrane biogenesis. Proc. Natl. Acad. Sci. USA 104: 6596-6601.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610684. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Ctdnep1 (mouse) mapping to 11 B3.

PRODUCT

Dullard 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Dullard shRNA Plasmid (m): sc-77191-SH and Dullard shRNA (m) Lentiviral Particles: sc-77191-V as alternate gene silencing products.

For independent verification of Dullard (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-77191A, sc-77191B and sc-77191C.

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.

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

Dullard siRNA (m) is recommended for the inhibition of Dullard 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Dullard gene expression knockdown using RT-PCR Primer: Dullard (m)-PR: sc-77191-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.