SANTA CRUZ BIOTECHNOLOGY, INC.

DOCK 10 siRNA (m): sc-143134

BACKGROUND

DOCK 10 (dedicator of cytokinesis 10), also known as ZIZ3 or DRIP2, is a 2,183 amino acid protein that belongs to the DOCK family of cytokinesis-regulating proteins and cotnains one PH domain, one DHR-1 domain and one DHR-2 domain. Expressed at lower levels in lung and brain tissue, DOCK 10 functions as a potential GEF (guanine nucleotide exchange factor) that is able to activate target GTPases by exchanging bound GDP for free GTP. Multiple isoforms of DOCK 10 exist due to alternative splicing events. The gene encoding DOCK 10 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin icthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Côte, J.F., et al. 2002. Identification of an evolutionarily conserved superfamily of DOCK180-related proteins with guanine nucleotide exchange activity. J. Cell Sci. 115: 4901-4913.
2. Nishikimi, A., et al. 2005. Zizimin2: a novel, DOCK180-related Cdc42 guanine nucleotide exchange factor expressed predominantly in lymphocytes. FEBS Lett. 579: 1039-1046.
3. Fluge, Ø., et al. 2006. Gene expression in poorly differentiated papillary thyroid carcinomas. Thyroid 16: 161-175.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611518. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Gadea, G., et al. 2008. DOCK10-mediated Cdc42 activation is necessary for amoeboid invasion of melanoma cells. Curr. Biol. 18: 1456-1465.
6. Yelo, E., et al. 2008. Dock10, a novel CZH protein selectively induced by interleukin-4 in human B lymphocytes. Mol. Immunol. 45: 3411-3418.

CHROMOSOMAL LOCATION

Genetic locus: Dock10 (mouse) mapping to 1 C4.

PRODUCT

DOCK 10 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 DOCK 10 shRNA Plasmid (m): sc-143134-SH and DOCK 10 shRNA (m) Lentiviral Particles: sc-143134-V as alternate gene silencing products.

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

DOCK 10 siRNA (m) is recommended for the inhibition of DOCK 10 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 DOCK 10 gene expression knockdown using RT-PCR Primer: DOCK 10 (m)-PR: sc-143134-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.