



Dok-5 siRNA (h): sc-105314

BACKGROUND

The downstream of kinase family (Dok-1-7) are members of a class of "docking" proteins that include the tyrosine kinase substrates IRS-1 and Cas, which contain multiple tyrosine residues and putative SH2 binding sites. Dok-4 and Dok-5 are more similar to each other than to the other Dok family members, and may constitute a subfamily of the DOK genes. Dok-5 is a tyrosine kinase substrate that enhances c-Ret-dependent activation of mitogen-activated protein kinase (MAPK). Dok-5 transcript is abundant in muscle and increases during T cell activation. Dok-5 protein undergoes tyrosine phosphorylation in response to Insulin and Insulin-like growth factor-1. The gene encoding human Dok-5 maps to chromosomal location 20q13.2.

REFERENCES

1. Grimm, J., et al. 2001. Novel p62dok family members, Dok-4 and Dok-5, are substrates of the c-Ret receptor tyrosine kinase and mediate neuronal differentiation. *J. Cell Biol.* 154: 345-354.
2. Shi, N., et al. 2002. Expression, crystallization and preliminary X-ray studies of the recombinant PTB domain of human dok-5 protein. *Acta Crystallogr. D Biol. Crystallogr.* 58: 2170-2172.
3. Cai, D., et al. 2003. Two new substrates in Insulin signaling, IRS5/Dok-4 and IRS6/Dok-5. *J. Biol. Chem.* 278: 25323-25330.
4. Favre, C., et al. 2003. Dok-4 and Dok-5: new Dok-related genes expressed in human T cells. *Genes Immun.* 4: 40-45.
5. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608334. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Zhang, Y., et al. 2004. Molecular basis of distinct interactions between Dok-1 PTB domain and tyrosine-phosphorylated EGF receptor. *J. Mol. Biol.* 343: 1147-1155.
7. LocusLink Report (LocusID: 55715). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: DOK5 (human) mapping to 20q13.2.

PRODUCT

Dok-5 siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Dok-5 shRNA Plasmid (h): sc-105314-SH and Dok-5 shRNA (h) Lentiviral Particles: sc-105314-V as alternate gene silencing products.

For independent verification of Dok-5 (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-105314A, sc-105314B and sc-105314C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Dok-5 siRNA (h) is recommended for the inhibition of Dok-5 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 μ M in 66 μ l. 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 Dok-5 gene expression knockdown using RT-PCR Primer: Dok-5 (h)-PR: sc-105314-PR (20 μ l). 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.