SANTA CRUZ BIOTECHNOLOGY, INC.

Duffy siRNA (m): sc-61883

BACKGROUND

Duffy protein (CD234) is the receptor for the human malarial parasite *Plasmodium vivax,* simian malarial parasite *Plasmodium knowlesi,* and can bind chemokines. Duffy is an acidic glycoprotein that carries antigenic determinants of the Duffy blood group system, which consists of four alleles, five phenotypes and five antigens. Duffy protein is detectable in endothelial cells of postcapillary venules, epithelial cells of kidney collecting ducts, lung alveoli, thyroid, and Purkinje cells in the cerebellum.

REFERENCES

1. Chaudhuri, A., et al. 1993. Cloning of glycoprotein D cDNA, which encodes the major subunit of the Duffy blood group system and the receptor for the *Plasmodium vivax* malaria parasite. Proc. Natl. Acad. Sci. USA 90: 10793-10797.
2. Hadley, T.J., et al. 1994. Postcapillary venule endothelial cells in kidney express a multispecific chemokine receptor that is structurally and functionally identical to the erythroid isoform, which is the Duffy blood group antigen. J. Clin. Invest. 94: 985-991.
3. Chaudhuri, A., et al. 1997. Detection of Duffy antigen in the plasma membranes and caveolae of vascular endothelial and epithelial cells of nonerythroid organs. Blood 89: 701-712.
4. Addison, C.L., et al. 2004. Overexpression of the duffy antigen receptor for chemokines (DARC) by NSCLC tumor cells results in increased tumor necrosis. BMC Cancer 4: 28.
5. Tournamille, C., et al. 2004. Sequence, evolution and ligand binding properties of mammalian Duffy antigen/receptor for chemokines. Immunogenetics 55: 682-694.
6. Choe, H., et al. 2005. Sulphated tyrosines mediate association of chemokines and *Plasmodium vivax* Duffy binding protein with the Duffy antigen/receptor for chemokines (DARC). Mol. Microbiol. 55: 1413-1422.
7. Hans, D., et al. 2005. Mapping binding residues in the *Plasmodium vivax* domain that binds Duffy antigen during red cell invasion. Mol. Microbiol. 55: 1423-1434.
8. LocusLink Report (LocusID: 2532). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Darc (mouse) mapping to 1 H3.

PRODUCT

Duffy 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 Duffy shRNA Plasmid (m): sc-61883-SH and Duffy shRNA (m) Lentiviral Particles: sc-61883-V as alternate gene silencing products.

For independent verification of Duffy (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-61883A, sc-61883B and sc-61883C.

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

Duffy siRNA (m) is recommended for the inhibition of Duffy 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 Duffy gene expression knockdown using RT-PCR Primer: Duffy (m)-PR: sc-61883-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.