SANTA CRUZ BIOTECHNOLOGY, INC.

ART4 siRNA (h): sc-72539

BACKGROUND

ART4 (ADP-ribosyltransferase 4), also known as DO, DOK1 or CD297, is a 314 amino acid protein that is lipid-anchored to the cell membrane and belongs to the Arg-specific ADP-ribosyltransferase family. Expressed in spleen tissue as well as in T cells, ART4 functions to catalyze both the NAD^+-dependent conversion of protein-L-arginine to nicotinamide and N^{ω}-(ADP-D-ribosyl)-protein-L-arginine and the $NADP^+$-dependent conversion of protein-L-arginine to nicotinamide and N^{ω}-((2'-phospho-ADP)-D-ribosyl)-protein-L-arginine. Via its catalytic activity, ART4 is responsible for the Dombrock blood group antigen system. The gene encoding ART4 maps to human chromosome 12p12.3, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome.

REFERENCES

1. Eiberg, H. and Mohr, J. 1996. Dombrock blood group (DO): assignment to chromosome 12p. Hum. Genet. 98: 518-521.
2. Gubin, A.N., Njoroge, J.M., Wojda, U., Pack, S.D., Rios, M., Reid, M.E. and Miller, J.L. 2000. Identification of the Dombrock blood group glycoprotein as a polymorphic member of the ADP-ribosyltransferase gene family. Blood 96: 2621-2627.
3. Mauthe, J., Coghlan, G. and Zelinski, T. 2000. Confirmation of the assignment of the Dombrock blood group locus (DO) to chromosome 12p: narrowing the boundaries to 12p12.3-p13.2. Vox Sang. 79: 53-56.
4. Rios, M., Storry, J.R., Hue-Roye, K., Chung, A. and Reid, M.E. 2002. Two new molecular bases for the Dombrock null phenotype. Br. J. Haematol. 117: 765-767.
5. Glowacki, G., Braren, R., Firner, K., Nissen, M., Kühl, M., Reche, P., Bazan, F., Cetkovic-Cvrlje, M., Leiter, E., Haag, F. and Koch-Nolte, F. 2002. The family of toxin-related ecto-ADP-ribosyltransferases in humans and the mouse. Protein Sci. 11: 1657-1670.
6. Reid, M.E. 2003. The Dombrock blood group system: a review. Transfusion 43: 107-114.

CHROMOSOMAL LOCATION

Genetic locus: ART4 (human) mapping to 12p12.3.

PRODUCT

ART4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ART4 shRNA Plasmid (h): sc-72539-SH and ART4 shRNA (h) Lentiviral Particles: sc-72539-V as alternate gene silencing products.

For independent verification of ART4 (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-72539A, sc-72539B and sc-72539C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

ART4 siRNA (h) is recommended for the inhibition of ART4 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 ART4 gene expression knockdown using RT-PCR Primer: ART4 (h)-PR: sc-72539-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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