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ART1 siRNA (h): sc-42731

BACKGROUND

Mono-ADP-ribosylation is one of the posttranslational protein modifications regulating cellular metabolism in prokaryotes. Mono-ADP-ribosylation is a posttranslational modification of proteins in which the ADP-ribose moiety of nicotinamide adenine dinucleotide is transferred to an acceptor amino acid. Five mammalian ADP-ribosyltransferases (ART1–ART5) have been cloned and expression is restricted to tissues such as cardiac and skeletal muscle, leukocytes, brain and testis. ART1 and ART2 are glycosylphosphatidylinositol (GPI)-anchored ectoenzymes expressed at the cell surface of rat and mouse T lymphocytes. ART1 is expressed in human skeletal muscle. In skeletal muscle and lymphocytes, ART1 modifies specific members of the integrin family of adhesion molecules, suggesting that ADP-ribosylation affects cell-matrix or cell-cell interactions.

REFERENCES

1. Okazaki, I.J., et al. 1994. Immunological and structural conservation of mammalian skeletal muscle glycosylphosphatidylinositol-linked ADP-ribosyltransferases. *Biochemistry* 33: 12828-12836.
2. Koch-Nolte, F., et al. 1996. Assignment of the human and mouse genes for muscle ecto mono(ADP-ribose) transferase to a conserved linkage group on human chromosome 11p15 and mouse chromosome 7. *Genomics* 36: 215-216.
3. Koch-Nolte, F., et al. 1997. Two novel human members of an emerging mammalian gene family related to mono-ADP-ribosylating bacterial toxins. *Genomics* 39: 370-376.
4. Braren, R., et al. 1998. Molecular characterization and expression of the gene for mouse NAD⁺:arginine ecto-mono (ADP-ribose) transferase, Art1. *Biochem. J.* 336: 561-568.
5. Okazaki, I.J., et al. 1999. Characterization of glycosylphosphatidylinositol-anchored, secreted, and intracellular vertebrate mono-ADP-ribosyltransferases. *Annu. Rev. Nutr.* 19: 485-509.
6. LocusLink Report (LocusID: 601625). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: ART1 (human) mapping to 11p15.4.

PRODUCT

ART1 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 ART1 shRNA Plasmid (h): sc-42731-SH and ART1 shRNA (h) Lentiviral Particles: sc-42731-V as alternate gene silencing products.

For independent verification of ART1 (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-42731A, sc-42731B and sc-42731C.

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 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

ART1 siRNA (h) is recommended for the inhibition of ART1 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 ART1 gene expression knockdown using RT-PCR Primer: ART1 (h)-PR: sc-42731-PR (20 μ l). 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.