SANTA CRUZ BIOTECHNOLOGY, INC.

ART2A siRNA (m): sc-42733

BACKGROUND

The family of mammalian ecto-ADP-ribosyltransferases (ARTs) covalently modify extracellular or cell surface proteins by transferring ADP-ribose to arginine or cysteine residues. ART2A (ADP-ribosyltransferase 2a), also known as Rt6, Rt-6, ARTC2, Ly92a or Rt6-1, is a 287 amino acid protein that belongs to the Arg-specific ADP-ribosyltransferase family. Localized to the cell membrane, ART2A is expressed in spleen, intestine and thymus. During neonatal stages, expression is highest in intestine and lowest in spleen. ART2A is suggested to posses ADP-ribosyltransferase activity and thiol-dependent NAD^+ glycohydrolase activity. Considered a glycosyl-phosphatidylinositol (GPI)-anchored ectoenzyme, ART2A competes with CD38 for nicotinamide adenosine dinucleotide (NAD) substrate, a modulator of multiple immune and inflammatory responses when released into extracellular compartments.

REFERENCES

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3. Okazaki, I.J. and Moss, J. 1999. Characterization of glycosyl-phosphatidylinositol-anchored, secreted and intracellular vertebrate mono-ADP-ribosyltransferases. Annu. Rev. Nutr. 19: 485-509.
4. Ohlrogge, W., et al. 2002. Generation and characterization of ecto-ADP-ribosyltransferase ART2.1/ART2.2-deficient mice. Mol. Cell. Biol. 22: 7535-7542.
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6. Chen, J., et al. 2006. Targeted disruption of CD38 accelerates autoimmune diabetes in NOD/Lt mice by enhancing autoimmunity in an ADP-ribosyltransferase 2-dependent fashion. J. Immunol. 176: 4590-4599.
7. Hong, S., et al. 2007. Lipopolysaccharide, IFN-γ, and IFN-β induce expression of the thiol-sensitive ART2.1 Ecto-ADP-ribosyltransferase in murine macrophages. J. Immunol. 179: 6215-6227.
8. Hong, S., et al. 2009. Differential regulation of P2X7 receptor activation by extracellular nicotinamide adenine dinucleotide and ecto-ADP-ribosyltransferases in murine macrophages and T cells. J. Immunol. 183: 578-592.
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CHROMOSOMAL LOCATION

Genetic locus: Art2a-ps (mouse) mapping to 7 E3.

PROTOCOLS

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

PRODUCT

ART2A 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 ART2A shRNA Plasmid (m): sc-42733-SH and ART2A shRNA (m) Lentiviral Particles: sc-42733-V as alternate gene silencing products.

For independent verification of ART2A (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-42733A, sc-42733B and sc-42733C.

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

ART2A siRNA (m) is recommended for the inhibition of ART2A 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 ART2A gene expression knockdown using RT-PCR Primer: ART2A (m)-PR: sc-42733-PR (20 µl, 415 bp). 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.