SANTA CRUZ BIOTECHNOLOGY, INC.

ABCE1 siRNA (m): sc-60118

BACKGROUND

ABCE1 (RNS4I, RLI) is a mediator of the 2-5A/RNase L pathway. The 2-5A/RNase L system is considered an essential pathway of interferon (IFN) action. In the pathway, IFN stimulation activates 2-5A synthetases which convert ATP into a set of atypical oligomers known as 2-5A. These oligomers in turn activate RNase L (RNS4), which leads to inhibition of protein synthesis by cleaving mRNAs at the 3' side of UpNp sequences. This inhibition necessitates the association of ABCE1 with RNase L and is dependent on the ratio between the two proteins. The 2-5A/RNase L system could also play a more general physiological role, for instance, in the regulation of RNA stability in mammalian cells.

REFERENCES

1. Iida, A., et al. 2002. Catalog of 605 single-nucleotide polymorphisms (SNPs) among 13 genes encoding human ATP-binding cassette transporters: ABCA4, ABCA7, ABCA8, ABCD1, ABCD3, ABCD4, ABCE1, ABCF1, ABCG1, ABCG2, ABCG4, ABCG5 and ABCG8. J. Hum. Genet. 47: 285-310.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601213. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Shichijo, S., et al. 2005. ABCE1, a member of ATP-binding cassette transporter gene, encodes peptides capable of inducing HLA-A2-restricted and tumor-reactive cytotoxic T lymphocytes in colon cancer patients. Oncol. Rep. 13: 907-913.
4. Lingappa, J.R., et al. 2006. Basic of HIV-1 Gag with ABCE1 (HP68), a cellular protein important for HIV-1 capsid assembly. J. Biol. Chem. 281: 3773-3784.
5. Chen, Z.Q., et al. 2006. The essential vertebrate ABCE1 protein interacts with eukaryotic initiation factors. J. Biol. Chem. 281: 7452-7457.

CHROMOSOMAL LOCATION

Genetic locus: Abce1 (mouse) mapping to 8 C2.

PRODUCT

ABCE1 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 ABCE1 shRNA Plasmid (m): sc-60118-SH and ABCE1 shRNA (m) Lentiviral Particles: sc-60118-V as alternate gene silencing products.

For independent verification of ABCE1 (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-60118A, sc-60118B and sc-60118C.

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 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

ABCE1 siRNA (m) is recommended for the inhibition of ABCE1 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.

GENE EXPRESSION MONITORING

ABCE1 (F-1): sc-518185 is recommended as a control antibody for monitoring of ABCE1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ABCE1 gene expression knockdown using RT-PCR Primer: ABCE1 (m)-PR: sc-60118-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Jiao, X.F., et al. 2017. Abce1 orchestrates M-phase entry and cytoskeleton architecture in mouse oocyte. Oncotarget 8: 39012-39020.

RESEARCH USE

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