SANTA CRUZ BIOTECHNOLOGY, INC.

ITM2A siRNA (m): sc-60868

BACKGROUND

The type II integral membrane (ITM2) protein family consists of three members ITM2A (also designated E25), ITM2B and ITM2C. ITM2A expression is high in osteogenic and lymphoid tissues, while both ITM2B and ITM2C are expressed in brain. Mutations in the ITM2B gene can lead to familial British dementia (fbd), and autosomal dominant disease characterized by progressive dementia, spasticity, and cerebellar ataxia, or familial Danish dementia (fdd), an autosomal dominant disorder characterized by cataracts, deafness, progressive ataxia, and dementia. The ITM2A 263-amino acid protein contains an N-terminal cytosolic domain, an uncleaved signal anchor sequence, and a tyrosine-rich C-terminal domain. Human ITM2A shares 91% homology with mouse ITM2A.

REFERENCES

1. Deleersnijder, W., et al. 1996. Isolation of markers for chondro-osteogenic differentiation using cDNA library subtraction. Molecular cloning and characterization of a gene belonging to a novel multigene family of integral membrane proteins. J. Biol. Chem. 271: 19475-19482.
2. Mao, M., et al. 1998. Identification of genes expressed in human CD34$^+$ hematopoietic stem/progenitor cells by expressed sequence tags and efficient full-length cDNA cloning. Proc. Natl. Acad. Sci. USA 95: 8175-8180.
3. Pittois, K., et al. 1999. Genomic organization and chromosomal localization of the Itm2a gene. Mamm. Genome 10: 54-56.
4. Rissoan, M.C., et al. 2002. Subtractive hybridization reveals the expression of immunoglobulin-like transcript 7, Eph-B1, granzyme B, and 3 novel transcripts in human plasmacytoid dendritic cells. Blood 100: 3295-3303.
5. Van den Plas, D., et al. 2004. *In vitro* studies on ITM2A reveal its involvement in early stages of the chondrogenic differentiation pathway. Biol. Cell 96: 463-470.
6. Van den Plas, D., et al. 2004. Constitutive overexpression of the integral membrane protein Itm2A enhances myogenic differentiation of C2C12 cells. Cell Biol. Int. 28: 199-207.
7. Sester, D.P., et al. 2005. LPS regulates a set of genes in primary murine macrophages by antagonising CSF-1 action. Immunobiology 210: 97-107.

CHROMOSOMAL LOCATION

Genetic locus: Itm2a (mouse) mapping to X D.

PRODUCT

ITM2A 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 ITM2A shRNA Plasmid (m): sc-60868-SH and ITM2A shRNA (m) Lentiviral Particles: sc-60868-V as alternate gene silencing products.

For independent verification of ITM2A (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-60868A, sc-60868B and sc-60868C.

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

ITM2A siRNA (m) is recommended for the inhibition of ITM2A 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 ITM2A gene expression knockdown using RT-PCR Primer: ITM2A (m)-PR: sc-60868-PR (20 µl, 600 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.

PROTOCOLS

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