SANTA CRUZ BIOTECHNOLOGY, INC.

MPZL2 siRNA (h): sc-96927

BACKGROUND

Thymus development depends on a complex series of interactions between thymocytes and the stromal component of the organ. MPZL2 (myelin protein zero-like 2), also known as EVA (epithelial V-like antigen) or EVA1, is a 215 amino acid single-pass type I membrane protein that belongs to the myelin P_0 protein family. Containing one Ig-like V-type (immunoglobulin-like) domain and two potential N-glycosylation sites in its extracellular domain, MPZL2 is expressed in thymus epithelium and is strongly down-regulated by thymocyte developmental progression. MPZL2 is considered an immunoglobulin-like adhesion molecule that associates with the cytoskeleton and may participate in mediating cell adhesion through homophilic interaction. MPZL2 exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 11q23.3.

REFERENCES

1. Teesalu, T., et al. 1998. Expression pattern of the epithelial v-like antigen (Eva) transcript suggests a possible role in placental morphogenesis. Dev. Genet. 23: 317-323.
2. Guttinger, M., et al. 1998. Epithelial V-like antigen (EVA), a novel member of the immunoglobulin superfamily, expressed in embryonic epithelia with a potential role as homotypic adhesion molecule in thymus histogenesis. J. Cell Biol. 141: 1061-1071.
3. DeMonte, L., et al. 2007. EVA regulates thymic stromal organisation and early thymocyte development. Biochem. Biophys. Res. Commun. 356: 334-340.
4. Cao, T., et al. 2007. Mutation in Mpzl3, a gene encoding a predicted adhesion protein, in the rough coat (rc) mice with severe skin and hair abnormalities. J. Invest. Dermatol. 127: 1375-1386.
5. Chatterjee, G., et al. 2008. Epithelial V-like antigen regulates permeability of the blood-CSF barrier. Biochem. Biophys. Res. Commun. 372: 412-417.
6. Iacovelli, S., et al. 2009. Lymphoid EVA1 expression is required for DN1-DN3 thymocytes transition. PLoS ONE 4: e7586.
7. Letzen, B.S., et al. 2010. MicroRNA expression profiling of oligodendrocyte differentiation from human embryonic stem cells. PLoS ONE 5: e10480.

CHROMOSOMAL LOCATION

Genetic locus: MPZL2 (human) mapping to 11q23.3.

PRODUCT

MPZL2 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 MPZL2 shRNA Plasmid (h): sc-96927-SH and MPZL2 shRNA (h) Lentiviral Particles: sc-96927-V as alternate gene silencing products.

For independent verification of MPZL2 (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-96927A, sc-96927B and sc-96927C.

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

MPZL2 siRNA (h) is recommended for the inhibition of MPZL2 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 MPZL2 gene expression knockdown using RT-PCR Primer: MPZL2 (h)-PR: sc-96927-PR (20 µl). 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.