SANTA CRUZ BIOTECHNOLOGY, INC.

MPZL1 siRNA (h): sc-88129

BACKGROUND

MPZL1 (myelin protein zero-like 1), also known as PZR, PZRα, PZRβ, PZR1β or MPZL1β, is a 269 amino acid widely expressed single-pass type I membrane receptor belonging to the myelin P0 protein family and the immunoglobulin superfamily. Existing as four alternatively spliced isoforms, MPZL1 participates in signal transduction and cell migration. The activity of MPZL1 in cell migration is dependent on both its immunoreceptor tyrosine inhibitory motif (ITIM) and its association with tyrosine protein phosphatase, src homology phosphatase-2 (SH-PTP2), an essential enzyme involved in hematopoietic, skeletal and vascular development. Containing one Ig-like V-type (immunoglobulin-like) domain, MPZL1 is a major receptor for concanavalin A (ConA). MPZL1 is encoded by a gene located on human chromosome 1, which contains approximately 3,000 genes, spans about 260 million base pairs and makes up 8% of the human genome.

REFERENCES

1. Zhao, Z.J., et al. 1998. Purification and cloning of PZR, a binding protein and putative physiological substrate of tyrosine phosphatase SHP-2. J. Biol. Chem. 273: 29367-29372.
2. Zhao, R., et al. 2000. Dissecting the interaction of SHP-2 with PZR, an immunoglobulin family protein containing immunoreceptor tyrosine-based inhibitory motifs. J. Biol. Chem. 275: 5453-5459.
3. Tang, D.S., et al. 2000. Cloning of human myelin protein zero-like genes by bioinformatics strategy. Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 32: 364-368.
4. Zhao, R., et al. 2003. Identification of a variant form of PZR lacking immunoreceptor tyrosine-based inhibitory motifs. Biochem. Biophys. Res. Commun. 303: 1028-1033.
5. Zannettino, A.C., et al. 2003. Novel mesenchymal and haematopoietic cell isoforms of the SHP-2 docking receptor, PZR: identification, molecular cloning and effects on cell migration. Biochem. J. 370: 537-549.

CHROMOSOMAL LOCATION

Genetic locus: MPZL1 (human) mapping to 1q24.2.

PRODUCT

MPZL1 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 MPZL1 shRNA Plasmid (h): sc-88129-SH and MPZL1 shRNA (h) Lentiviral Particles: sc-88129-V as alternate gene silencing products.

For independent verification of MPZL1 (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-88129A, sc-88129B and sc-88129C.

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

MPZL1 siRNA (h) is recommended for the inhibition of MPZL1 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 MPZL1 gene expression knockdown using RT-PCR Primer: MPZL1 (h)-PR: sc-88129-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.