

PERLD1 siRNA (m): sc-152170

BACKGROUND

Glycosylphosphatidylinositol (GPI) anchors are remodeled during their transport to the cell surface. The GPI lipid remodeling pathway is conserved from yeast to mammals. PERLD1 (PER1-like domain-containing protein 1), also known as CAB2, PER1, PP1498, AGLA546 or PGAP3 (post-GPI attachment to proteins factor 3), is a 320 amino acid multi-pass membrane protein that localizes to the Golgi apparatus and the endoplasmic reticulum. Ubiquitously expressed with highest levels found in thyroid and placenta, PERLD1 belongs to the PGAP3 family and participates in the lipid remodeling step of GPI-anchor maturation. Lipid remodeling involves the generation of two saturated fatty chains at the sn-2 position of GPI-anchors proteins. PERLD1 is essential for phospholipase A2 activity that removes an acyl-chain at the sn-2 position of GPI-anchors during GPI remodeling.

REFERENCES

1. Katoh, M. and Katoh, M. 2004. Evolutionary recombination hotspot around GSDML-GSDM locus is closely linked to the oncogenic recombination hotspot around the PPP1R1B-ERBB2-GRB7 amplicon. *Int. J. Oncol.* 24: 757-763.
2. Sangiorgio, V., et al. 2004. GPI-anchored proteins and lipid rafts. *Ital. J. Biochem.* 53: 98-111.
3. Fujita, M., et al. 2006. PER1 is required for GPI-phospholipase A2 activity and involved in lipid remodeling of GPI-anchored proteins. *Mol. Biol. Cell* 17: 5253-5264.
4. Maeda, Y., et al. 2007. Fatty acid remodeling of GPI-anchored proteins is required for their raft association. *Mol. Biol. Cell* 18: 1497-1506.
5. Fujita, M. and Jigami, Y. 2008. Lipid remodeling of GPI-anchored proteins and its function. *Biochim. Biophys. Acta* 1780: 410-420.
6. Jigami, Y. 2008. Biosynthetic pathway of GPI-anchored cell wall manno-proteins in yeast as a potential target for anti-fungal and anti-cancer drugs. *Nippon Ishinkin Gakkai Zasshi* 49: 253-262.

CHROMOSOMAL LOCATION

Genetic locus: Pgap3 (mouse) mapping to 11 D.

PRODUCT

PERLD1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PERLD1 shRNA Plasmid (m): sc-152170-SH and PERLD1 shRNA (m) Lentiviral Particles: sc-152170-V as alternate gene silencing products.

For independent verification of PERLD1 (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-152170A, sc-152170B and sc-152170C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PERLD1 siRNA (m) is recommended for the inhibition of PERLD1 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 μ M in 66 μ l. 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 PERLD1 gene expression knockdown using RT-PCR Primer: PERLD1 (m)-PR: sc-152170-PR (20 μ l). 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.