SANTA CRUZ BIOTECHNOLOGY, INC.

mPRε siRNA (h): sc-78180

BACKGROUND

The PAQR superfamily of receptors includes AdipoR1, AdipoR2, mPRα, mPRβ, mPRγ, mPRδ, mPRε, PAQR3 and PAQR4, all of which encode functional receptors with a broad range of ligand specificities. The best characterized family members are AdipoR1 and AdipoR2, which regulate fatty acid oxidation and the uptake of glucose by adiponectin. Certain PAQR family members have been shown to specifically bind progesterone and mediate non-genomic effects. In yeast, since PAQR progeseterone-dependent signaling does not require heterotrimeric G-proteins, it is suspected that PAQRs may function as a novel class of G protein-coupled receptors. mPRε, also known as PAQR9 (progestin and adipoQ receptor family member 9), is a 377 amino acid multi-pass membrane protein that responds to progesterone binding.

REFERENCES

1. Fernandes, M.S., et al. 2005. Regulated expression of putative membrane progestin receptor homologues in human endometrium and gestational tissues. J. Endocrinol. 187: 89-101.
2. Tang, Y.T., et al. 2005. PAQR proteins: a novel membrane receptor family defined by an ancient 7-transmembrane pass motif. J. Mol. Evol. 61: 372-380.
3. Thomas, P. 2008. Characteristics of membrane progestin receptor α (mPRα) and progesterone membrane receptor component 1 (PGMRC1) and their roles in mediating rapid progestin actions. Front. Neuroendocrinol. 29: 292-312.
4. Romero-Sánchez, M., et al. 2008. Expression profile of heptahelical putative membrane progesterone receptors in epithelial ovarian tumors. Hum. Pathol. 39: 1026-1033.
5. Góñez, L.J., et al. 2008. Pancreatic expression and mitochondrial localization of the progestin-adipoQ receptor PAQR10. Mol. Med. 14: 697-704.
6. Smith, J.L., et al. 2008. Heterologous expression of human mPRα, mPRβ and mPRγ in yeast confirms their ability to function as membrane progesterone receptors. Steroids 73: 1160-1173.
7. Villa, N.Y., et al. 2009. Sphingolipids function as downstream effectors of a fungal PAQR. Mol. Pharmacol. 75: 866-875.

CHROMOSOMAL LOCATION

Genetic locus: PAQR9 (human) mapping to 3q23.

PRODUCT

mPRε 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 mPRε shRNA Plasmid (h): sc-78180-SH and mPRε shRNA (h) Lentiviral Particles: sc-78180-V as alternate gene silencing products.

For independent verification of mPRε (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-78180A, sc-78180B and sc-78180C.

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

mPRε siRNA (h) is recommended for the inhibition of mPRε 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 mPRε gene expression knockdown using RT-PCR Primer: mPRε (h)-PR: sc-78180-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.