SANTA CRUZ BIOTECHNOLOGY, INC.

HE6 siRNA (m): sc-75236

BACKGROUND

G protein-coupled receptors (GPRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, comprise a superfamily of proteins that play a role in many different stimulus-response pathways. G protein-coupled receptors translate extracellular signals into intracellular signals (G protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. HE6, also known as GPR64 (G protein-coupled receptor 64) or TM7LN2, is a 1,017 amino acid multi-pass membrane protein that contains one GPS domain and belongs to the G protein-coupled receptor family. Expressed specifically in the epididymis, HE6 exists as a heterodimer that is thought to be involved in signal transduction pathways that regulate male fertility and epididymal function. Multiple isoforms of HE6 exist due to alternative splicing events.

REFERENCES

1. Osterhoff, C., et al. 1997. Cloning of a human epididymis-specific mRNA, HE6, encoding a novel member of the seven transmembrane-domain receptor superfamily. DNA Cell Biol. 16: 379-389.
2. Kirchhoff, C., et al. 1998. Function of human epididymal proteins in sperm maturation. Andrologia 30: 225-232.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300572. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Obermann, H., et al. 2003. HE6, a two-subunit heptahelical receptor associated with apical membranes of efferent and epididymal duct epithelia. Mol. Reprod. Dev. 64: 13-26.
5. Davies, B., et al. 2004. Targeted deletion of the epididymal receptor HE6 results in fluid dysregulation and male infertility. Mol. Cell. Biol. 24: 8642-8648.
6. Kirchhoff, C., et al. 2006. Role of epididymal receptor HE6 in the regulation of sperm microenvironment. Mol. Cell. Endocrinol. 250: 43-48.
7. Gottwald, U., et al. 2006. New approaches for male fertility control: HE6 as an example of a putative target. Mol. Cell. Endocrinol. 250: 49-57.
8. Davies, B., et al. 2007. Novel epididymis-specific mRNAs downregulated by HE6/Gpr64 receptor gene disruption. Mol. Reprod. Dev. 74: 539-553.

CHROMOSOMAL LOCATION

Genetic locus: Gpr64 (mouse) mapping to X F4.

PRODUCT

HE6 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 HE6 shRNA Plasmid (m): sc-75236-SH and HE6 shRNA (m) Lentiviral Particles: sc-75236-V as alternate gene silencing products.

For independent verification of HE6 (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-75236A, sc-75236B and sc-75236C.

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

HE6 siRNA (m) is recommended for the inhibition of HE6 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 HE6 gene expression knockdown using RT-PCR Primer: HE6 (m)-PR: sc-75236-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.