SANTA CRUZ BIOTECHNOLOGY, INC.

PIRT siRNA (m): sc-140658

BACKGROUND

PIRT (phosphoinositide-interacting regulator of transient receptor potential channels), also known as phosphoinositide-interacting protein, is a 137 amino acid multi-pass membrane protein. Highly conserved among vertebrates, PIRT consists of two transmembrane domains and one putative C-terminal phosphoinositide-binding domain. Although PIRT is expressed in peripheral nervous system, with highest levels in dorsal root ganglion and trigeminal neurons, and lowest levels in sympathetic and enteric neurons, it is not expressed in spinal cord. PIRT is a required component of the VR1 complex, which positively regulates VR1, a sensor of both noxious heat and capsaicin. Correspondingly, PIRT knockout results in impaired responses to noxious heat and capsaicin exposure, while VR1 remains unaltered. The gene that encodes PIRT maps to human chromosome 17p13.1.

REFERENCES

1. Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.
2. Zody, M.C., et al. 2006. DNA sequence of human chromosome 17 and analysis of rearrangement in the human lineage. Nature 440: 1045-1049.
3. Kim, A.Y., et al. 2008. Pirt, a phosphoinositide-binding protein, functions as a regulatory subunit of TRPV1. Cell 133: 475-485.
4. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612068. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Rohacs, T. 2009. Phosphoinositide regulation of non-canonical transient receptor potential channels. Cell Calcium 45: 554-565.
6. Wu, L.J., et al. 2010. International union of basic and clinical pharmacology. LXXVI. Current progress in the mammalian TRP ion channel family. Pharmacol. Rev. 62: 381-404.

CHROMOSOMAL LOCATION

Genetic locus: Pirt (mouse) mapping to 11 B3.

PRODUCT

PIRT 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 PIRT shRNA Plasmid (m): sc-140658-SH and PIRT shRNA (m) Lentiviral Particles: sc-140658-V as alternate gene silencing products.

For independent verification of PIRT (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-140658A, sc-140658B and sc-140658C.

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

PIRT siRNA (m) is recommended for the inhibition of PIRT 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 PIRT gene expression knockdown using RT-PCR Primer: PIRT (m)-PR: sc-140658-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.