SANTA CRUZ BIOTECHNOLOGY, INC.

V3R siRNA (m): sc-42338

BACKGROUND

In vertebrates, volatile odorants are detected by sensory neurons of the main olfactory epithelium (MOE), which perceive smell. In addition to the MOE, many vertebrates possess a vomeronasal organ (VNO), which detects pheromones. Pheromones elicit specific behavioral and physiological responses, including mating and dominance status, among recipients of the same species. A family of receptors that detect pheromones are designated the vomeronasal organ receptors or commonly known as the pheromone receptors. They include 3 subfamilies, V1R, V2R and V3R, each of which are comprised of potentially 100 or more family members, including several nonfunctional pseudogenes. These receptors have thus far been characterized in mouse and rat, but functional vomeronasal receptors have yet to be identified in human. The vomeronasal receptors encode seven transmembrane, G protein-coupled receptors that activate G_i and G_0 and are expressed in a subset of neurons of the vamoeronasal organ.

REFERENCES

1. Krieger, J., et al. 1999. Selective activation of G protein subtypes in the vomeronasal organ upon stimulation with urine-derived compounds. J. Biol. Chem. 274: 4655-4662.
2. Pantages, E. and Dulac, C. 2000. A novel family of candidate pheromone receptors in mammals. Neuron 28: 835-845.
3. Rodriguez, I., et al. 2000. A putative pheromone receptor gene expressed in human olfactory mucosa. Nat. Genet. 26: 18-19.
4. Del Punta, K., et al. 2000. Sequence diversity and genomic organization of vomeronasal receptor genes in the mouse. Genome Res. 10: 1958-1967.
5. Giorgi, D., et al. 2000. Characterization of nonfunctional V1R-like pheromone receptor sequences in human. Genome Res. 10: 1979-1985.
6. Martini, S., et al. 2001. Co-expression of putative pheromone receptors in the sensory neurons of the vomeronasal organ. J. Neurosci. 21: 843-848.
7. Hagino-Yamagishi, K., et al. 2001. The mouse putative pheromone receptor was specifically activated by stimulation with male mouse urine. J. Biochem. 129: 509-512.

CHROMOSOMAL LOCATION

Genetic locus: Vmn1r63/Vmn1r59/Vmn1r58/Vmn1r65/Vmn1r62/Vmn1r64/Vmn1r56 (mouse) mapping to 7 A1.

PRODUCT

V3R siRNA (m) is a pool of 2 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 V3R shRNA Plasmid (m): sc-42338-SH and V3R shRNA (m) Lentiviral Particles: sc-42338-V as alternate gene silencing products.

For independent verification of V3R (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-42338A and sc-42338B.

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

V3R siRNA (m) is recommended for the inhibition of V3R 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 V3R gene expression knockdown using RT-PCR Primer: V3R (m)-PR: sc-42338-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.