

V1RL1 siRNA (m): sc-155088

BACKGROUND

Pheromone receptors are an essential part of the olfactory sensory system that play a role in the recognition of and response to chemical communication. V1RL1, also known as VN1R1 (vomeronasal type-1 receptor 1), VNR1911, ZVNH1 or ZVNR1, is a 353 amino acid member of the G protein-coupled receptor family. Localized to the cell membrane and expressed in olfactory mucosa, V1RL1 is a pheromone receptor that functions to mediate hormone response. V1RL1 contains seven transmembrane domains and shares strong homology with its mouse and rat counterparts. In chimpanzee and orangutan, V1RL1 is encoded by a non-functional pseudogene, suggesting that V1RL1 expression may be species specific.

REFERENCES

- Giorgi, D., Friedman, C., Trask, B.J. and Rouquier, S. 2000. Characterization of nonfunctional V1R-like pheromone receptor sequences in human. *Genome Res.* 10: 1979-1985.
- Giorgi, D. and Rouquier, S. 2002. Identification of V1R-like putative pheromone receptor sequences in non-human primates. Characterization of V1R pseudogenes in marmoset, a primate species that possesses an intact vomeronasal organ. *Chem. Senses* 27: 529-537.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605234. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Mundy, N.I. and Cook, S. 2003. Positive selection during the diversification of class I vomeronasal receptor-like (V1RL) genes, putative pheromone receptor genes, in human and primate evolution. *Mol. Biol. Evol.* 20: 1805-1810.
- Young, J.M., Kambere, M., Trask, B.J. and Lane, R.P. 2005. Divergent V1R repertoires in five species: Amplification in rodents, decimation in primates, and a surprisingly small repertoire in dogs. *Genome Res.* 15: 231-240.
- Mundy, N.I. 2006. Genetic basis of olfactory communication in primates. *Am. J. Primatol.* 68: 559-567.

CHROMOSOMAL LOCATION

Genetic locus: Vmn1r70 (mouse) mapping to 7 A1.

PRODUCT

V1RL1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see V1RL1 shRNA Plasmid (m): sc-155088-SH and V1RL1 shRNA (m) Lentiviral Particles: sc-155088-V as alternate gene silencing products.

For independent verification of V1RL1 (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-155088A and sc-155088B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

V1RL1 siRNA (m) is recommended for the inhibition of V1RL1 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 V1RL1 gene expression knockdown using RT-PCR Primer: V1RL1 (m)-PR: sc-155088-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.