

V1RA1 siRNA (m): sc-154966

BACKGROUND

Vomerolnasal organ receptors commonly known as pheromone receptors are an essential part of the olfactory sensory system that play a role in the recognition and response to chemical communication. The three subfamilies of vomeronasal organ receptors include, V1R, V2R and V3R, each of which are comprised of potentially 100 or more family members, including several non-functional pseudogenes. V1RA1 (vomerolnasal 1 receptor, A1), also known as V1R, V1r1, VN12, mV1R1 or Vmn1r51, is a 319 amino acid multi-pass membrane protein expressed in a subset of sensory neurons located in the apical layer of the vomeronasal organ. Belonging to the G protein-coupled receptor 1 family, V1RA1 is a pheromone receptor implicated in the regulation of social as well as reproductive behavior. V1RA1 contains seven transmembrane domains.

REFERENCES

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3. Rodriguez, I., et al. 2000. A putative pheromone receptor gene expressed in human olfactory mucosa. *Nat. Genet.* 26: 18-19.
4. Rodriguez, I. and Mombaerts, P. 2002. Novel human vomeronasal receptor-like genes reveal species-specific families. *Curr. Biol.* 12: 409-411.
5. Boschat, C., et al. 2002. Pheromone detection mediated by a V1R vomeronasal receptor. *Nat. Neurosci.* 5: 1261-1262.
6. Zhang, J. and Webb, D.M. 2003. Evolutionary deterioration of the vomeronasal pheromone transduction pathway in catarrhine primates. *Proc. Natl. Acad. Sci. USA* 100: 8337-8341.
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CHROMOSOMAL LOCATION

Genetic locus: Vmn1r51 (mouse) mapping to 6 D1.

PRODUCT

V1RA1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see V1RA1 shRNA Plasmid (m): sc-154966-SH and V1RA1 shRNA (m) Lentiviral Particles: sc-154966-V as alternate gene silencing products.

For independent verification of V1RA1 (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-154966A, sc-154966B and sc-154966C.

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

V1RA1 siRNA (m) is recommended for the inhibition of V1RA1 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 V1RA1 gene expression knockdown using RT-PCR Primer: V1RA1 (m)-PR: sc-154966-PR (20 μ l). 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.