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SANTA CRUZ BIOTECHNOLOGY, INC.

TAAR7A siRNA (m): sc-154033

BACKGROUND

Trace amines are biogenic amines present at very low levels in mammalian tissues. Trace amines are neurotransmitters in invertebrates that are likely to be involved in a variety of physiological functions that have yet to be fully understood. TAAR7A (trace amine-associated receptor 7A), also known as Gm229, is a 358 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 1 family. TAAR7A is a possible receptor for trace amines. Members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These seven transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory depending on the type of receptor to which it binds. TAAR7A is encoded by a gene located on mouse chromosome 10 A4.

REFERENCES

1. Borowsky, B., et al. 2001. Trace amines: identification of a family of mammalian G protein-coupled receptors. Proc. Natl. Acad. Sci. USA 98: 8966-8971.
2. Lindemann, L., et al. 2005. Trace amine-associated receptors form structurally and functionally distinct subfamilies of novel G protein-coupled receptors. Genomics 85: 372-385.
3. Gloriam, D.E., et al. 2005. The repertoire of trace amine G protein-coupled receptors: large expansion in zebrafish. Mol. Phylogenet. Evol. 35: 470-482.
4. Zucchi, R., et al. 2006. Trace amine-associated receptors and their ligands. Br. J. Pharmacol. 149: 967-978.
5. Burchett, S.A., et al. 2006. The mysterious trace amines: protean neuromodulators of synaptic transmission in mammalian brain. Prog. Neurobiol. 79: 223-246.
6. Hashiguchi, Y., et al. 2007. Evolution of trace amine associated receptor (TAAR) gene family in vertebrates: lineage-specific expansions and degradations of a second class of vertebrate chemosensory receptors expressed in the olfactory epithelium. Mol. Biol. Evol. 24: 2099-2107.
7. Berry, M.D. 2007. The potential of trace amines and their receptors for treating neurological and psychiatric diseases. Rev. Recent Clin. Trials 2: 3-19.

CHROMOSOMAL LOCATION

Genetic locus: Taar7a (mouse) mapping to 10 A4.

PRODUCT

TAAR7A siRNA (m) is a target-specific 19-25 nt siRNA 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 TAAR7A shRNA Plasmid (m): sc-154033-SH and TAAR7A shRNA (m) Lentiviral Particles: sc-154033-V as alternate gene silencing products.

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 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

TAAR7A siRNA (m) is recommended for the inhibition of TAAR7A 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 TAAR7A gene expression knockdown using RT-PCR Primer: TAAR7A (m)-PR: sc-154033-PR (20 µl). 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.