

TAAR3 siRNA (m): sc-154031

BACKGROUND

TAAR3 (putative trace amine-associated receptor 3), also known as TaR-3 (trace amine receptor 3) or GPR57 (G protein-coupled receptor 57), is a 343 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 1 family. TAAR3 is considered an orphan receptor since its endogenous ligand is unknown. It is suggested that TAAR3 is not expressed in pons, thalamus, globus pallidus, caudate, putamen or cerebellum. The gene that encodes TAAR3 contains approximately 1,078 bases and maps to human chromosome 6p25. With 170 million base pairs, chromosome 6 comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

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2. Lee, D.K., et al. 2000. Cloning and characterization of additional members of the G protein-coupled receptor family. *Biochim. Biophys. Acta* 1490: 311-323.
3. Vanti, W.B., et al. 2003. Discovery of a null mutation in a human trace amine receptor gene. *Genomics* 82: 531-536.
4. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. *Proc. Natl. Acad. Sci. USA* 100: 5956-5961.
5. 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.
6. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. *Genes Chromosomes Cancer* 47: 159-164.
7. Luttrell, L.M. 2008. Reviews in molecular biology and biotechnology: transmembrane signaling by G protein-coupled receptors. *Mol. Biotechnol.* 39: 239-264.
8. Fan, J., et al. 2010. Linkage disequilibrium mapping of the chromosome 6q21-22.31 bipolar I disorder susceptibility locus. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 153B: 29-37.

CHROMOSOMAL LOCATION

Genetic locus: Taar3 (mouse) mapping to 10 A4.

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.

PRODUCT

TAAR3 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 TAAR3 shRNA Plasmid (m): sc-154031-SH and TAAR3 shRNA (m) Lentiviral Particles: sc-154031-V as alternate gene silencing products.

For independent verification of TAAR3 (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-154031A, sc-154031B and sc-154031C.

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

TAAR3 siRNA (m) is recommended for the inhibition of TAAR3 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 TAAR3 gene expression knockdown using RT-PCR Primer: TAAR3 (m)-PR: sc-154031-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.