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ANO1 siRNA (*X. laevis*): sc-270219

BACKGROUND

ANO1 (anoctamin 1), also known as DOG1, ORAOV2, TAOS2 or TMEM16A, is a 986 amino acid multi-pass membrane protein that localizes to both the cell membrane and the cytoplasm and belongs to the anoctamin family. Expressed in a variety of tissues with highest expression in liver, gastrointestinal muscle and skeletal muscle, ANO1 functions as a calcium-activated chloride channel that is required for normal tracheal development. Human ANO1 shares 90% sequence identity with its mouse counterpart, suggesting a conserved role between species. ANO1 is present in breast, pancreatic, gastric, and uterine cancers, as well as in neck, ovarian and parathyroid tumors, suggesting a role for ANO1 in carcinogenesis. Three isoforms of ANO1 exist due to alternative splicing events.

REFERENCES

1. Katoh, M. and Katoh, M. 2003. FLJ10261 gene, located within the CCND1-EMS1 locus on human chromosome 11q13, encodes the eight-transmembrane protein homologous to C12orf3, C11orf25 and FLJ34272 gene products. *Int. J. Oncol.* 22: 1375-1381.
2. Katoh, M. and Katoh, M. 2004. Identification and characterization of TMEM16E and TMEM16F genes in silico. *Int. J. Oncol.* 24: 1345-1349.
3. Huang, X., et al. 2006. Comprehensive genome and transcriptome analysis of the 11q13 amplicon in human oral cancer and synteny to the 7F5 amplicon in murine oral carcinoma. *Genes Chromosomes Cancer* 45: 1058-1069.
4. Carles, A., et al. 2006. Head and neck squamous cell carcinoma transcriptome analysis by comprehensive validated differential display. *Oncogene* 25: 1821-1831.
5. Kalay, E., et al. 2007. A novel locus for autosomal recessive nonsyndromic hearing impairment, DFNB63, maps to chromosome 11q13.2-q13.4. *J. Mol. Med.* 85: 397-404.
6. Yang, Y.D., et al. 2008. TMEM16A confers receptor-activated calcium-dependent chloride conductance. *Nature* 455: 1210-1215.

PRODUCT

ANO1 siRNA (*X. laevis*) 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 ANO1 shRNA Plasmid (*X. laevis*): sc-270219-SH and ANO1 shRNA (*X. laevis*) Lentiviral Particles: sc-270219-V as alternate gene silencing products.

For independent verification of ANO1 (*X. laevis*) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270219A, sc-270219B and sc-270219C.

PROTOCOLS

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

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

ANO1 siRNA (*X. laevis*) is recommended for the inhibition of ANO1 expression in *X. laevis* 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 ANO1 gene expression knockdown using RT-PCR Primer: ANO1 (*X. laevis*)-PR: sc-270219-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.