SANTA CRUZ BIOTECHNOLOGY, INC.

ANO9 siRNA (h): sc-96721

BACKGROUND

ANO 9 (anoctamin 9), also known as TMEM16J (transmembrane protein 16J), PIG5 (p53-induced gene 5 protein) or TP53I5 (tumor protein p53-inducible protein 5), is a 782 amino acid multi-pass membrane protein. ANO9 is encoded by a gene that maps to chromosome 11 and is expressed as three isoforms due to alternate splicing events. With approximately 135 million base pairs and 1,400 genes, chromosome 11 makes up around 4% of human genomic DNA and is considered a gene and disease association dense chromosome. The chromosome 11 encoded Atm gene is important for regulation of cell cycle arrest and apoptosis following double strand DNA breaks. Atm mutation leads to the disorder known as ataxia-telangiectasia. The blood disorders Sickle cell anemia and thalassemia are caused by HBB gene mutations, while Wilms' tumors, WAGR syndrome and Denys-Drash syndrome are associated with mutations of the WT1 gene. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are also associated with defects in chromosome 11.

REFERENCES

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3. Zehelein, J., et al. 2006. Skipping of Exon 1 in the KCNQ1 gene causes Jervell and Lange-Nielsen syndrome. J. Biol. Chem. 281: 35397-35403.
4. Ataga, K.I., et al. 2007. β-thalassaemia and Sickle cell anaemia as paradigms of hypercoagulability. Br. J. Haematol. 139: 3-13.
5. Berger, A.C., et al. 2007. The subcellular localization of the Niemann-Pick type C proteins depends on the adaptor complex AP-3. J. Cell Sci. 120: 3640-3652.
6. Kunzelmann, K., et al. 2011. Anoctamins. Pflugers Arch. 462: 195-208.
7. Winpenny, J.P. and Gray, M.A. 2012. The anoctamin (TMEM16) gene family: calcium-activated chloride channels come of age. Exp. Physiol. 97: 175-176.
8. Tian, Y., et al. 2012. Anoctamins are a family of Ca^{2+}-activated Cl^- channels. J. Cell Sci. 125: 4991-4998.

CHROMOSOMAL LOCATION

Genetic locus: ANO9 (human) mapping to 11p15.5.

PRODUCT

ANO9 siRNA (h) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ANO9 shRNA Plasmid (h): sc-96721-SH and ANO9 shRNA (h) Lentiviral Particles: sc-96721-V as alternate gene silencing products.

For independent verification of ANO9 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-96721A and sc-96721B.

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

ANO9 siRNA (h) is recommended for the inhibition of ANO9 expression in human 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 ANO9 gene expression knockdown using RT-PCR Primer: ANO9 (h)-PR: sc-96721-PR (20 µl, 554 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ousingsawat, J., et al. 2011. CFTR and TMEM16A are separate but functionally related Cl^- channels. Cell. Physiol. Biochem. 28: 715-724.

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.