

# ANO10 siRNA (h): sc-78203

## BACKGROUND

ANO10 (anoctamin 10), also known as TMEM16K (transmembrane protein 16K) or SCAR10, is a 660 amino acid multi-pass membrane protein that has expression in brain, moderate expression in heart and retina and low expression in spleen, liver, kidney, lung, testis and placenta. Defects in the gene encoding ANO10 are the cause of Spinocerebellar ataxia, autosomal recessive 10 (SCAR 10), which is a disease characterized by limb and gait ataxia, dysarthria and nystagmus. ANO10 is also known to inhibit the activity of ANO1, a fellow anoctamin family member. ANO10 is encoded by a gene that maps to chromosome 3 and is expressed as five isoforms due to alternative splicing events. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes. Notably, there is a chemokine receptor (CKR) gene cluster and a variety of human cancer-related loci on chromosome 3. Particular regions of the chromosome 3 short arm are deleted in many types of cancer cells. Key tumor suppressing genes on chromosome 3 encode apoptosis mediator RASSF1, cell migration regulator HYAL1 and angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

## REFERENCES

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## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: ANO10 (human) mapping to 3p22.1.

## PRODUCT

ANO10 siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ANO10 shRNA Plasmid (h): sc-78203-SH and ANO10 shRNA (h) Lentiviral Particles: sc-78203-V as alternate gene silencing products.

For independent verification of ANO10 (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-78203A, sc-78203B and sc-78203C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ANO10 siRNA (h) is recommended for the inhibition of ANO10 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  $\mu$ M in 66  $\mu$ 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 ANO10 gene expression knockdown using RT-PCR Primer: ANO10 (h)-PR: sc-78203-PR (20  $\mu$ 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.