SANTA CRUZ BIOTECHNOLOGY, INC.

Oculomedin siRNA (h): sc-88440

BACKGROUND

Trabecular cells of the eye form a mesh-like structure called the trabecular meshwork, which is located at the iridocorneal angle, the principal site of aqueous outflow from the eye. Studies have suggested that trabecular cells sense the intraocular pressure and respond by regulating aqueous outflow. Glaucoma, a disease of the retinal ganglion cells, is often associated with an increase in intraocular pressure. Oculomendin (OCLM), also known as trabecular meshwork-inducible stretch response protein, is a 44 amino acid protein expressed in eye trabeculum and retina. Oculomendin is induced by cyclic stretching in trabecular cells. A segment of the protein shares sequence similarity with a domain of rat neurokinin B precursor/neuromedin K.

REFERENCES

1. Sato, Y., Matsuo, T. and Ohtsuki, H. 1999. A novel gene (Oculomedin) induced by mechanical stretching in human trabecular cells of the eye. Biochem. Biophys. Res. Commun. 259: 349-351.
2. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604301. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/604301
3. Leung, Y.F., Baum, L., Lam, D.S., Fan, D.S., Chua, J.K. and Pang, C.P. 2000. Absence of trabecular meshwork-inducible stretch response (TISR)/Oculomedin gene and proximal promoter mutation in primary open angle glaucoma patients. Hum. Genet. 107: 404-405.
4. Jansson, M., Tomic, L., Larsson, L.I. and Wadelius, C. 2003. Evaluation of the Oculomedin gene in the etiology of primary open angle and exfoliative glaucoma. Mol. Vis. 9: 93-95.
5. Fujiwara, N., Matsuo, T. and Ohtsuki, H. 2003. Protein expression, genomic structure, and polymorphisms of Oculomedin. Ophthalmic Genet. 24: 141-151.
6. Mozaffarieh, M. and Flammer, J. 2007. Is there more to glaucoma treatment than lowering IOP? Surv. Ophthalmol. 52: S174-S179.
7. Mozaffarieh, M., Grieshaber, M.C. and Flammer, J. 2008. Oxygen and blood flow: players in the pathogenesis of glaucoma. Mol. Vis. 14: 224-233.

CHROMOSOMAL LOCATION

Genetic locus: OCLM (human) mapping to 1q31.1.

PRODUCT

Oculomedin siRNA (h) 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 Oculomedin shRNA Plasmid (h): sc-88440-SH and Oculomedin shRNA (h) Lentiviral Particles: sc-88440-V as alternate gene silencing products.

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 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

Oculomedin siRNA (h) is recommended for the inhibition of Oculomedin 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 Oculomedin gene expression knockdown using RT-PCR Primer: Oculomedin (h)-PR: sc-88440-PR (20 µl). 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.