

γ N-crystallin siRNA (h): sc-40462

BACKGROUND

Crystallins are the major proteins of the vertebrate eye lens, where they maintain the transparency and refractive index of the lens. Crystallins are divided into α , β and γ families, and the β - and γ -crystallins also comprise a superfamily. Crystallins usually contain seven distinctive protein regions, including four homologous motifs, a connecting peptide, and N- and C-terminal extensions. γ -crystallins are structural proteins in the lens, and they exist as monomers, which typically lack connecting peptides and terminal extensions. The γ -crystallins include seven closely related proteins designated γ A-, γ B-, γ C-, γ D-, γ E-, γ F-, and γ G-crystallin, which all map to human chromosome 2q33. This family also includes the γ N- and γ S-crystallin genes, which map to human chromosomes 7 and 3, respectively. The γ -crystallins are differentially regulated after early development, and are involved in cataract formation as a result of either age-related protein degradation or genetic mutation.

REFERENCES

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3. Srivastava, O.P. and Srivastava, K. 1998. Degradation of γ D- and γ S-crystallins in human lenses. *Biochem. Biophys. Res. Commun.* 253: 288-294.
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5. Jaenicke, R. and Slingsby, C. 2001. Lens crystallins and their microbial homologs: structure, stability, and function. *Crit. Rev. Biochem. Mol. Biol.* 36: 435-499.
6. Pande, A., Pande, J., Asherie, N., Lomakin, A., Ogun, O., King, J. and Benedek, G.B. 2001. Crystal cataracts: human genetic cataract caused by protein crystallization. *Proc. Natl. Acad. Sci. USA* 98: 6116-6120.
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CHROMOSOMAL LOCATION

Genetic locus: CRYGN (human) mapping to 7q36.1.

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

γ N-crystallin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see γ N-crystallin shRNA Plasmid (h): sc-40462-SH and γ N-crystallin shRNA (h) Lentiviral Particles: sc-40462-V as alternate gene silencing products.

For independent verification of γ N-crystallin (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-40462A, sc-40462B and sc-40462C.

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

γ N-crystallin siRNA (h) is recommended for the inhibition of γ N-crystallin 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 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 γ N-crystallin gene expression knockdown using RT-PCR Primer: γ N-crystallin (h)-PR: sc-40462-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.