

γ A-crystallin siRNA (h): sc-40450

BACKGROUND

Crystallins, the major proteins of the vertebrate eye lens, are responsible for maintaining the transparency and the refractive index of the lens. Crystallins are divided into α , β and γ families, all of which usually contain seven distinctive protein regions, including four homologous motifs, one connecting peptide, and N- and C-terminal extensions. The γ -crystallin family is comprised of seven closely related proteins designated γ A-, γ B-, γ C-, γ D-, γ E-, γ F- and γ G-crystallin. γ A-crystallin, also known as CRYGA, CRYG5 or CRYG1, is a 174 amino acid member of the γ -crystallin family. Functioning as a monomer that has a two-domain β fold, γ A-crystallin, like other members of its family, plays a key role in ensuring the proper structure of the vertebrate eye lens. Defects in the gene encoding γ A-crystallin are associated with the formation of cataracts which are characterized by a clouding of the crystalline lens of the eye.

REFERENCES

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8. Salim, A. and Zaidi, Z.H. 2003. Homology models of human γ -crystallins: structural study of the extensive charge network in γ -crystallins. *Biochem. Biophys. Res. Commun.* 300: 624-630.
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CHROMOSOMAL LOCATION

Genetic locus: CRYGA (human) mapping to 2q34.

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 A-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 A-crystallin shRNA Plasmid (h): sc-40450-SH and γ A-crystallin shRNA (h) Lentiviral Particles: sc-40450-V as alternate gene silencing products.

For independent verification of γ A-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-40450A, sc-40450B and sc-40450C.

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 A-crystallin siRNA (h) is recommended for the inhibition of γ A-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 A-crystallin gene expression knockdown using RT-PCR Primer: γ A-crystallin (h)-PR: sc-40450-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.