

# $\gamma$ N-crystallin siRNA (m): sc-40463

## 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  $\alpha$ ,  $\beta$  and  $\gamma$  families, and the  $\beta$ - and  $\gamma$ -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.  $\gamma$ -crystallins are structural proteins in the lens, and they exist as monomers, which typically lack connecting peptides and terminal extensions. The  $\gamma$ -crystallins include seven closely related proteins designated  $\gamma$ A-,  $\gamma$ B-,  $\gamma$ C-,  $\gamma$ D-,  $\gamma$ E-,  $\gamma$ F-, and  $\gamma$ G-crystallin, which all map to human chromosome 2q33. This family also includes the  $\gamma$ N- and  $\gamma$ S-crystallin genes, which map to human chromosomes 7 and 3, respectively. The  $\gamma$ -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  $\gamma$ D- and  $\gamma$ S-crystallins in human lenses. *Biochem. Biophys. Res. Commun.* 253: 288-294.
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## CHROMOSOMAL LOCATION

Genetic locus: Crygn (mouse) mapping to 5 A3.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

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

## PRODUCT

$\gamma$ N-crystallin siRNA (m) 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  $\gamma$ N-crystallin shRNA Plasmid (m): sc-40463-SH and  $\gamma$ N-crystallin shRNA (m) Lentiviral Particles: sc-40463-V as alternate gene silencing products.

For independent verification of  $\gamma$ N-crystallin (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-40463A, sc-40463B and sc-40463C.

## 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

$\gamma$ N-crystallin siRNA (m) is recommended for the inhibition of  $\gamma$ N-crystallin expression in mouse 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  $\gamma$ N-crystallin gene expression knockdown using RT-PCR Primer:  $\gamma$ N-crystallin (m)-PR: sc-40463-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.