

SPACR siRNA (h): sc-95466

BACKGROUND

SPACR (sialoprotein associated with cones and rods), also known as IMPG1 (interphotoreceptor matrix proteoglycan 1) or IPM150 (interphotoreceptor matrix proteoglycan of 150 kDa), is a 797 amino acid secreted protein that contains two SEA domains. Possibly interacting with hyaluronan, SPACR may help to form a basic macromolecular scaffold comprising the insoluble interphotoreceptor matrix. SPACR is abundantly expressed in retina, where it is specifically expressed by cone and rod photoreceptor cells. The gene that encodes SPACR consists of approximately 151,564 bases and maps to human chromosome 6q14.1. With 170 million base pairs, chromosome 6 comprises nearly 6% of the human genome. Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

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2. Acharya, S., et al. 1998. Characterization of SPACR, a sialoprotein associated with cones and rods present in the interphotoreceptor matrix of the human retina: immunological and lectin binding analysis. *Glycobiology* 8: 997-1006.
3. Acharya, S., et al. 1998. SPACR, a novel interphotoreceptor matrix glycoprotein in human retina that interacts with hyaluronan. *J. Biol. Chem.* 273: 31599-31606.
4. Gehrig, A., et al. 1998. Assessment of the interphotoreceptor matrix proteoglycan-1 (IMPG1) gene localised to 6q13-q15 in autosomal dominant Stargardt-like disease (ADSTGD), progressive bifocal chorioretinal atrophy (PBCRA), and North Carolina macular dystrophy (MCDR1). *J. Med. Genet.* 35: 641-645.
5. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602870. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Kuehn, M.H. and Hageman, G.S. 1999. Expression and characterization of the IPM 150 gene (IMPG1) product, a novel human photoreceptor cell-associated chondroitin-sulfate proteoglycan. *Matrix Biol.* 18: 509-518.

CHROMOSOMAL LOCATION

Genetic locus: IMPG1 (human) mapping to 6q14.1.

PRODUCT

SPACR 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 SPACR shRNA Plasmid (h): sc-95466-SH and SPACR shRNA (h) Lentiviral Particles: sc-95466-V as alternate gene silencing products.

For independent verification of SPACR (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-95466A, sc-95466B and sc-95466C.

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

SPACR siRNA (h) is recommended for the inhibition of SPACR 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.

GENE EXPRESSION MONITORING

SPACR (G-11): sc-377366 is recommended as a control antibody for monitoring of SPACR gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SPACR gene expression knockdown using RT-PCR Primer: SPACR (h)-PR: sc-95466-PR (20 μ 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.