SANTA CRUZ BIOTECHNOLOGY, INC.

HSPC159 siRNA (h): sc-94804

BACKGROUND

Galectins are a family of soluble β-galactoside-binding animal lectins that modulate cell-to-cell adhesion and cell-to-extracellular matrix (ECM) interactions and also play a role in tumor progression, pre-mRNA splicing and apoptosis. The Galectin-related protein (GRP), also designated HSPC159, is a 172 amino acid protein that contains one galectin domain. However, HSPC159 does not appear to bind carbohydrates or lactose because the critical residues required for binding are not conserved. The gene encoding HSPC159 maps to human chromosome 2, which consists of 237 million bases and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2, including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

1. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
2. Thomas, A.C., et al. 2006. ABCA12 is the major harlequin ichthyosis gene. J. Invest. Dermatol. 126: 2408-2413.
3. Zhou, D., et al. 2006. Expression, purification, crystallization and preliminary X-ray characterization of the GRP carbohydrate-recognition domain from *Homo sapiens*. Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun. 62: 474-476.
4. Marshall, J.D., et al. 2007. Alström syndrome. Eur. J. Hum. Genet. 15: 1193-1202.
5. Marshall, J.D., et al. 2007. Spectrum of ALMS1 variants and evaluation of genotype-phenotype correlations in Alström syndrome. Hum. Mutat. 28: 1114-1123.
6. Zhou, D., et al. 2008. Crystal structure of the C-terminal conserved domain of human GRP, a galectin-related protein, reveals a function mode different from those of galectins. Proteins 71: 1582-1588.
7. Wälti, M.A., et al. 2008. Crystal structure of the putative carbohydrate recognition domain of human galectin-related protein. Proteins 72: 804-808.

CHROMOSOMAL LOCATION

Genetic locus: LGALSL (human) mapping to 2p14.

PRODUCT

HSPC159 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HSPC159 shRNA Plasmid (h): sc-94804-SH and HSPC159 shRNA (h) Lentiviral Particles: sc-94804-V as alternate gene silencing products.

For independent verification of HSPC159 (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-94804A, sc-94804B and sc-94804C.

RESEARCH USE

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

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

HSPC159 siRNA (h) is recommended for the inhibition of HSPC159 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 HSPC159 gene expression knockdown using RT-PCR Primer: HSPC159 (h)-PR: sc-94804-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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