SANTA CRUZ BIOTECHNOLOGY, INC.

galectin-9 siRNA (h): sc-35444

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 play a role in tumor progression, pre-mRNA splicing and apoptosis. One member of this family, galectin-9, also known as Ecalectin, Gal-9, hUAT2, HOM-HD-21 or LGALS9, maps to human chromosome 17. Galectin-9 is an integral membrane protein that exists as two isoforms, a long form and a short form, which differ by an internal stretch of 32 amino acids. Galectin-9 is an eosinophile chemoattractant produced by activated T lymphocytes that is expressed in organs of the gastrointestinal tract, aorta, liver, kidney, pancreatic islets, lung, tonsil and some colorectal carcinoma, and in the cell lines HUVEC, U-937, HL60, HeLa and Jurkat. Introduction of IL-1β enhances galectin-9 expression. Increased expression of galectin-9 induces apoptosis in thymocytes and $CD8^+$ cells. Galectin-9 is involved in immuno/inflammation processes in potential-sensitive uric acid translocation and contributes to inflammatory reactions in the central nervous system (CNS). Galectin-5, also known as RL-18, may function in erythrocyte differentiation.

REFERENCES

1. Couraud, P.O., et al. 1989. Molecular cloning, characterization, and expression of a human 14-kDa lectin. J. Biol. Chem. 264: 1310-1316.
2. Tureci, O., et al. 1997. Molecular definition of a novel human galectin which is immunogenic in patients with Hodgkin's disease. J. Biol. Chem. 272: 6416-6422.
3. Hirashima, M., 1999. Ecalectin as a T cell-derived eosinophil chemoattractant. Int. Arch. Allergy Immunol. 120: 7-10.
4. Suk, K., et al. 1999. Natural autoantibody to galectin-9 in normal human sera. J. Clin. Immunol. 19: 158-165.
5. Matsushita, N., et al. 2000. Requirement of divalent galactoside-binding activity of ecalectin/galectin-9 for eosinophil chemoattraction. J. Biol. Chem. 275: 8355-8360.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 601879. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: LGALS9 (human) mapping to 17q11.2.

PRODUCT

galectin-9 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 galectin-9 shRNA Plasmid (h): sc-35444-SH and galectin-9 shRNA (h) Lentiviral Particles: sc-35444-V as alternate gene silencing products.

For independent verification of galectin-9 (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-35444A, sc-35444B and sc-35444C.

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

galectin-9 siRNA (h) is recommended for the inhibition of galectin-9 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 galectin-9 gene expression knockdown using RT-PCR Primer: galectin-9 (h)-PR: sc-35444-PR (20 µl, 451 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ma, C.J., et al. 2013. *Cis* association of galectin-9 with Tim-3 differentially regulates IL-12/IL-23 expressions in monocytes via TLR signaling. PLoS ONE 8: e72488.
2. Di Gregorio, J., et al. 2017. Role of glycogen synthase kinase-3β and PPAR-γ on epithelial-to-mesenchymal transition in DSS-induced colorectal fibrosis. PLoS ONE 12: e0171093.
3. Schaefer, K., et al. 2017. Galectin-9 binds to O-glycans on protein disulfide isomerase. Glycobiology 27: 878-887.

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.