



galectin-4 siRNA (h): sc-37102

BACKGROUND

Galectins are a family of soluble b-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-4, also known as Gal-4, L36 or LGALS4, maps to human chromosome 19q13.2. The galectin-4 protein is composed of 323 amino acids and contains two homologous carbohydrate recognition domains (CRD) and all amino acids typically conserved in the galectin family. Expression of galectin-4 correlates with the malignant potential of human hepatocellular carcinoma (HCC) and is differentially regulated depending on cell-cell contact, serum growth factors, cell growth and cell differentiation status. galectin-4 expression is detected in epithelial cells of the colon, rectum and intestine, and in HT29 and LS174T cell lines. Galectin-4 is underexpressed in colorectal cancer and is preferentially upregulated in cells prone to peritoneal dissemination.

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. Chiu, M.L., et al. 1994. An adherens junction protein is a member of the family of lactose-binding lectins. *J. Biol. Chem.* 269: 31770-31776.
3. Rechreche, H., et al. 1997. Cloning and expression of the mRNA of human galectin-4, an S-type lectin down-regulated in colorectal cancer. *Eur. J. Biochem.* 248: 225-230.
4. Gitt, M.A., et al. 1998. galectin-4 and galectin-6 are two closely related lectins expressed in mouse gastrointestinal tract. *J. Biol. Chem.* 273: 2954-2960.

CHROMOSOMAL LOCATION

Genetic locus: LGALS4 (human) mapping to 19q13.2.

PRODUCT

galectin-4 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 galectin-4 shRNA Plasmid (h): sc-37102-SH and galectin-4 shRNA (h) Lentiviral Particles: sc-37102-V as alternate gene silencing products.

For independent verification of galectin-4 (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-37102A, sc-37102B and sc-37102C.

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

galectin-4 siRNA (h) is recommended for the inhibition of galectin-4 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

galectin-4 (D-11): sc-376398 is recommended as a control antibody for monitoring of galectin-4 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 galectin-4 gene expression knockdown using RT-PCR Primer: galectin-4 (h)-PR: sc-37102-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Belo, A.I., et al. 2013. galectin-4 reduces migration and metastasis formation of pancreatic cancer cells. *PLoS ONE* 8: e65957.
2. Cai, Z., et al. 2014. galectin-4 serves as a prognostic biomarker for the early recurrence/metastasis of hepatocellular carcinoma. *Cancer Sci.* 105: 1510-1517.

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.