SANTA CRUZ BIOTECHNOLOGY, INC.

galectin-4 siRNA (m): sc-37428

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-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, 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 (mouse) mapping to 7 A3.

PRODUCT

galectin-4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see galectin-4 shRNA Plasmid (m): sc-37428-SH and galectin-4 shRNA (m) Lentiviral Particles: sc-37428-V as alternate gene silencing products.

For independent verification of galectin-4 (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-37428A, sc-37428B and sc-37428C.

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

GENE EXPRESSION MONITORING

galectin-4 (E-2): sc-271209 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (m)-PR: sc-37428-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Jin, X., et al. 2019. Cartilage ablation of Sirt1 causes inhibition of growth plate chondrogenesis by hyperactivation of mTORC1 signaling. Endocrinology 160: 3001-3017.

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.